



The Topic of Terrorism on Yahoo! Answers: Questions, Answers and Users' Anonymity

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The Topic of Terrorism on Yahoo! Answers: Questions, Answers and Users’ Anonymity

Abstract

Purpose: This paper explores the use of community question answering sites (CQAs) on the topic of terrorism. Three research questions are investigated: What are the dominant themes reflected in terrorism-related questions? How do answer characteristics vary with question themes? How does users’ anonymity relate to question themes and answer characteristics?

Design/Methodology/Approach: Data include 300 questions that attracted 2,194 answers on the CQA Yahoo! Answers. Content analysis was employed.

Findings: The questions reflected the community’s information needs ranging from the life of extremists to counter-terrorism policies. Answers were laden with negative emotions, reflecting hate speech and Islamophobia, and making claims that were rarely verifiable. Users who posted sensitive content generally remained anonymous.

Practical Implications: This paper raises awareness of how CQAs are used to exchange information about sensitive topics such as terrorism. It calls for governments and law enforcement agencies to collaborate with major social media companies to develop a process for cross-platform blacklisting of users and content, as well as identifying those who are vulnerable.

Originality/Value: Theoretically, the paper contributes to the academic discourse on terrorism in CQAs by exploring the type of questions asked, and the sort of answers they attract. Methodologically, it enriches the literature around terrorism and social media that has hitherto mostly drawn data from Facebook and Twitter.

Keywords: Community question answering; online anonymity; online hate speech; terrorism; question themes; answer characteristics, information behaviour, social media

1. Introduction

1.1. Background

The threat of terrorism has become disturbingly unpredictable. The territorial demise of Islamic extremists in Iraq and Syria—referred to as the Islamic State of Iraq and Syria (ISIS) (Dearden, 2014)—was supposed to herald an era of peace. Instead, militants who fled from the collapsed caliphate have returned home or emerged elsewhere only to launch more attacks. For example, ISIS fighters flushed out of the Middle East carried out suicide attacks in Surabaya (Suzuki, 2018) and Sri Lanka (Bond and Findlay, 2019). Clearly, terrorism remains a persistent challenge worldwide.

While portrayed as a threat to society and human civilization by mainstream media, terrorists sell terrorism as freedom fighting via social networking sites and private messaging platforms (Johnson et al., 2016; Klausen, 2015). However, the actual workings of terrorism are largely shrouded in secrecy. For the curious, a convenient avenue to turn to is the community question answering sites (CQAs).

CQAs are social media platforms where users ask questions, answer those submitted by others, and have the option to evaluate responses using UpVotes and DownVotes (Agichtein et al., 2008; Roy et al., 2018). They serve as a continually-growing repository of topic-specific information. Over the years, scholars have studied a variety of topics on CQAs that run the gamut from civic education (Keynan and Lazar, 2017) and eating habits (Bowler et al., 2012) to non-suicidal self-injury (Lewis et al., 2012).

However, the topic of terrorism on CQAs has yet to receive scholarly attention. This research gap is important to address for two reasons. First, terrorism has entered the main line of discourse in CQAs. A search conducted by one of the authors on the keyword “terrorism” in the archives of Yahoo! Answers returned 10,126 results in October 2019. Some users

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inquired about the genesis of terrorist groups (e.g., “Who exactly created ISIS?”) while others were keen to understand terrorists’ underlying motives (e.g., “Why are terrorist’s [sic] trying to hurt the beautiful Paris, France?”).

Second, in response to the call to study terrorism in the context of information technology use (Hua and Bapna, 2012; Hua et al., 2018), some works have examined how terrorists exploit social media platforms such as Facebook (McKeown, 2017) and Twitter (Klausen, 2015). However, the heightened interest in terrorism on CQAs notwithstanding, terrorism-related CQA content has yet to be systematically explored.

1.2. Objective and Research Questions

The objective of this paper is to investigate the topic of terrorism on CQAs, and in particular, Yahoo! Answers. Specifically, the following three research questions (RQs) will guide the investigation.

RQ 1: What are the dominant themes reflected in terrorism-related questions? The intent is to uncover salient terrorism-related information needs of the online community. Using inductive content analysis (Keynan and Lazar, 2017; Miles et al., 2013), the dominant themes of the questions will be identified. While some questions are anticipated to be fairly innocuous, others could be sensitive or even abusive, opening the door for impassioned answers presented single-sidedly (Jane, 2014; March and Marrington, 2019).

RQ 2: How do answer characteristics vary with question themes? This RQ focuses on the characteristics of answers attracted by each question theme identified in RQ 1. Specifically, answers will be analysed in terms of four dimensions: directness, emotiveness, verifiability and community approval. Directness assesses whether answers accurately respond to-the-point (Fichman, 2011). Emotiveness indicates the use of affect-laden tone (Chua and Banerjee, 2013) that can stoke emotions to foster extreme attitudes and beliefs.

Verifiability refers to the provision of references as a way to support the arguments (Fichman, 2011). Community approval is measured using UpVotes and DownVotes cast by CQA users (Agichtein et al., 2008).

RQ 3: How does users' anonymity relate to question themes and answer characteristics? Known as the online disinhibition effect, users tend to loosen social restrictions and vent out suppressed thoughts when they can be anonymous (Suler, 2004). This explains why controversial and sensitive online messages are often submitted anonymously (Mondal et al., 2017). For a topic such as terrorism, it would be insightful to uncover patterns of users' anonymity across different question themes and answer characteristics.

The paper is significant on three fronts. Theoretically, it initiates a new line of academic discourse focusing on the topic of terrorism in CQAs by exploring the type of questions asked, and the sort of answers they attract. Shedding light on the degree to which users conceal their identity when discussing terrorism, the paper expands the scholarly understanding of disinhibition by identifying two shades of online anonymity, namely, pure anonymity and quasi-anonymity.

Methodologically, using data from Yahoo! Answers, the paper enriches the literature around terrorism and social media that has mostly drawn data from Facebook (McKeown, 2017) and Twitter (Klausen, 2015). This is significant because findings from Facebook and Twitter, which require users to be socially connected, cannot be generalized to CQAs that support interactions even among strangers.

On the practical front, this paper raises awareness of how CQAs are used by the online community to exchange information on terrorism. It urges counter-terrorism agencies to collaborate with CQA service providers and other social media companies to identify and track down users whose postings include a flavour of radicalization.

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6 **2. Literature Review**
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8 *2.1. Terrorism and Social Media*
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10 The upsurge of terrorism starting from the 9/11 and the rise of social media can both
11 be viewed as black swans (Taleb, 2007). Black swans are phenomena that cause massive
12 impact but are difficult to forecast. Despite being outliers, these low-probability events
13 potentially change the course of human history (LaFree, 2017; Taleb, 2007). The 9/11 attack
14 was indeed unprecedented. As al-Qaeda operatives hijacked four commercial planes and flew
15 into some of America’s most iconic buildings, the crumbling of the World Trade Center’s
16 twin towers became a chilling image. Meanwhile, the Internet era witnessed a series of social
17 media innovations such as Facebook, Twitter and Yahoo! Answers, which have been
18 embraced by the public rapidly.
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30 If understanding the black swan event of terrorism alone is challenging, grasping its
31 confluence with the other black swan of social media is even trickier. Nevertheless, it is easy
32 to see why these two black swans intersect. The key objectives of terrorists are radicalization,
33 propaganda and recruitment (Weimann, 2012), all of which could be supported efficaciously
34 through social media. For one, social media applications are freely accessible. Moreover, just
35 as marketers rely on users’ online behaviour to find potential customers, terrorist groups can
36 trawl the Internet to fish for new recruits (Steinbach, 2016). Tellingly, a study of convicted
37 UK-based terrorists revealed their extensive use of the online space to proselytize (Gill et al.,
38 2017). Social media applications thus allow extremists to virtually knock on the doors of their
39 target audiences (Johnson et al., 2016; Klausen, 2015; LaFree, 2017).
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53 Research into the role of social media in terrorism has started to gain traction in recent
54 years. A dominant stream of works examines how extremist content has crept into social
55 media. The literature documents the use of Jihadi forum Shumukh al-Islam to facilitate lone-
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wolf attacks (Weimann, 2012). It also highlights the emerging idea of ‘jihadi cool’, where pro-Islamic content is presented online as hip and trendy (Huey, 2015). Tweets posted by Western-origin extremists based in Syria were found to contain religious instructions, anecdotes from battles, and propagandizing pictures (Klausen, 2015).

Another research stream focuses on the online chatter in the aftermath of terrorist attacks. These events tend to trigger Islamophobia—the fear or hatred of Islam and Muslims, which in turn translate to online hate speech (Kaakinen et al., 2018). They can also result in online expressions of sympathy toward terrorists that in turn, can stir the hearts of potential recruits (Awan, 2016). These possibilities notwithstanding, how CQAs are used for the topic of terrorism remains largely unexplored hitherto.

2.2. Related Works on CQAs

The CQA literature can be divided into two broad areas of interest, namely, content and users. Content encompasses questions and answers while users include contributors, answerers and lurkers.

Among research that focuses on questions, a common approach is to develop taxonomies of the posted entries. For example, one classification scheme organizes questions as fact-seeking, advice-seeking, experience-seeking, prescription-seeking and solicitation of approval (Harper et al., 2010). Another categorizes questions as factoid, list, definition, complex interactive and target (Chua and Banerjee, 2013). In a related vein, some works have tried to cluster similar questions (Bloomer et al., 2016).

However, applying extant question-classification schemes on terrorism-related questions would still obscure the nature of users’ information needs. Instead, a theme-based analysis is preferred because it enables the actual topics of concern to be presented explicitly.

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This also fills the gap in the literature, which is currently silent over the range of terrorism-related issues discussed on social media, and specifically CQAs.

Another major strand of CQA research deals with answer characteristics. To determine high-quality answers, some works relied on proxies such as answer length, and answerers' reputation (Jeon et al., 2006). Others advocated the use of content analysis to evaluate answer quality (Agichtein et al., 2008). For example, some focused on answer characteristics such as accuracy and verifiability (Fichman, 2011), while others also took the emotional value of answers into consideration (Chua and Banerjee, 2013).

This paper examines answers in terms of their directness, emotiveness, verifiability and community approval. Collectively, these dimensions not only capture the essential aspects of answers to terrorism-related questions but offer a peek into the community's opinions on the entries. Specifically, directness assesses whether answers accurately respond to-the-point (Fichman, 2011). Emotiveness is a measure of whether answers are affect-laden (Chua and Banerjee, 2013), which can potentially stoke emotions to foster extreme attitudes and beliefs. Verifiability refers to the provision of references in the answers (Fichman, 2011), allowing for an expedient way to confirm the arguments. Community approval measures the degree to which CQA users endorse and renounce answers using UpVotes and DownVotes, respectively (Agichtein et al., 2008).

Much research has also delved into why users are drawn to CQAs. Some use CQAs to establish a good reputation in the online community or to exhibit their altruism. Others simply enjoy exchanging opinions on topics of their interests (Lu and Hsiao, 2007; Oh, 2011). More recently, Roy et al. (2018) found that while some users serve as gatekeepers who strive to maintain the quality of the content on CQAs, others seldom regard themselves morally responsible to the platform.

CQA research has also started to shed light on other user types. Works such as Slag et al. (2015) identified users who are referred to as one-day flies in CQAs. These users join the community, submit a post, and never emerge again. More commonly found in online communities are lurkers who benefit from others' goodwill, but themselves do not contribute anything (Amichai-Hamburger et al., 2016; Preece and Shneiderman, 2009).

Despite these works, the literature remains silent on whether anonymous users necessarily post inferior content on CQAs. Nonetheless, the literature on online hate speech could be brought to bear in the present context. Users who post abusive messages on social media tend to conceal their identity. After all, the armour of anonymity encourages disinhibition complex, the tendency to loosen social restrictions and vent out suppressed thoughts (Mondal et al., 2017; Suler, 2004).

For a topic such as terrorism, users who submit innocuous content apparently have nothing to hide but those who spew hate speech or contribute sensitive content may find safety in being anonymous. Therefore, it is interesting to identify the relation between users' anonymity and the nature of terrorism-related content on CQAs.

3. Methods

3.1. Data Collection

Yahoo! Answers was selected as the data source. For one, it is one of the most widely used CQAs, whose archives are searchable to anybody with Internet access (Keynan and Lazar, 2017). Terrorism-related content available on such a popular platform deserves scholarly attention. Furthermore, Yahoo! Answers does not require users to identify themselves. The option to remain anonymous removes the psychological barrier of posting anything—including potentially sensitive entries (Keynan and Lazar, 2017). This allows terrorism-related content to be studied in terms of user anonymity.

A Python program was developed using Scrapy, an open-source framework, to crawl data from Yahoo! Answers. The program collected terrorism-related data posted on the CQA over a five-month period from October 2016 to February 2017, during which three major terrorist attacks took place, namely, the suicide truck bombing in Mogadishu, Somalia, the al-Rawda mosque attack in Bir al-Abed, Egypt, and the ambulance bombing in Kabul, Afghanistan. This period also saw the 2016 US Presidential Election in which terrorism emerged as one of the top voting issues.

The program specifically looked for questions containing at least one of the following terms: 'terrorism,' 'terrorist,' 'al-Qaeda,' 'Islamic State,' 'ISIS,' 'ISIL' and 'Daesh.' While the reason to include the first two terms is self-explanatory, the names of al-Qaeda and the polyonymous ISIS were also chosen because these two extremist groups constituted the chief threats of terrorism at the time of data collection (Clarke and Papadopoulos, 2016). The two have become underground terror networks supported by several lone-wolves and sleeper cells which are yet to be gunned down (Gunaratna et al., 2018).

The crawler retrieved 1,981 questions. Of these, 752 were unanswered and hence eliminated. From the remaining pool of 1,229 questions, 300 entries from 129 users with unique names and another 124 anonymously posted were randomly selected and admitted for analysis. These questions represent an even distribution over the five-month period (60 questions per month x 5 months). They attracted 2,194 answers altogether contributed by 1,415 users with unique names and another 342 anonymous users. Overall, the size of the dataset compares favourably with previous works that manually annotated CQA data (e.g., Harper et al., 2010; Lewis et al., 2012).

3.2. Coding and Analysis

As this paper explores how CQA users engage with the topic of terrorism—a phenomenon that has received little scholarly attention—and asks relatively exploratory research questions, a qualitative methodology was best suited for coding and analysis (Li et al., 2018; Miles et al., 2013; Silverman, 2013; Strauss and Corbin, 1998). Specifically, an inductive approach was required to code the question themes because a set of a priori codes could not be developed from the limited literature (King, 2004). The inductive approach facilitated an appreciation of the wholeness of the question dataset while capturing inconsistencies (Holloway and Wheeler, 2010). Answer characteristics, on the other hand, could be coded deductively.

Three coders, who were graduate students in a large public university in Asia, were recruited. They jointly read each question a few times to establish emergent codes. Thereafter, the authors and the coders conferred to identify relations among the initial codes. Constant comparison was employed (Miles et al., 2013; Strauss and Corbin, 1998). Given the need for parsimony, similar emergent codes were merged. After a few iterations of checking between the data and the emergent codes, the following three code labels were developed: terrorist-centric questions, consequence-centric questions, and action-centric questions.

Questions were coded as (1) terrorist-centric if they dealt with terrorists' identity, actions, practices and beliefs; (2) consequence-centric if they encompassed concerns or queries about the effects of terrorism; and (3) action-centric if they focused on tackling the threat of terrorism. The robustness of the coding scheme was confirmed by checking that each question could be coded into one or more themes.

Besides, regardless of theme, each question could also be coded as either innocuous or sensitive. Questions were deemed innocuous if they were politically correct, maintained a civil tone, or sought to promote peace without seeking contentious responses. They stayed away from social fault lines such as nationality and religion (e.g., "Does terrorism lead to

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adolescent depression?”). In contrast, questions were labelled as sensitive if they had a radicalization flavour, or could trigger discrimination and/or malevolence (e.g., “What is the best way to slaughter a Muslim terrorist?”). Where possible, an effort was made to identify sub-themes within each theme-innocuity combination of questions.

The answers were coded deductively by the three coders in terms of directness, emotiveness and verifiability (Fichman, 2011), while the volumes of UpVotes and DownVotes were readily available from the dataset. Specifically, an answer was coded as direct if it responded to each part of the question to the point (1), digressive otherwise (0). The answer was coded as positively emotive if it expressed positive emotions such as gratitude (+1), negatively emotive if it conveyed negative emotions such as anger (-1), non-emotive otherwise (0). The answer was coded as verifiable if it provided active URLs to other sources in support of its content (1), non-verifiable otherwise (0).

To establish inter-coder reliability, all the three coders jointly coded 177 answers to a randomly selected pool of 25 questions (11 innocuous + 14 sensitive). The mean pair-wise inter-coder reliability in terms of Cohen’s Kappa for directness, emotiveness and verifiability were 0.92, 0.87 and 0.93 respectively—confirming agreement among the coders beyond chance. Disagreements were resolved through discussion. The remaining 2,017 answers were coded by distributing them roughly equally among the three coders.

The profile of both askers and answerers was traced in terms of anonymity. As indicated earlier, Yahoo! Answers allows its users to submit content without identifying themselves to the community (Keynan and Lazar, 2017). Anonymity was operationalized based on whether a given user had chosen not to use a username, and had concealed his or her profile details.

4. Results

4.1. Question Themes (RQ 1)

As shown in Table 1, the 300 questions in the dataset (125 innocuous + 175 sensitive) could be grouped thematically as terrorist-centric (17.67%), consequence-centric (51.67%), and action-centric (41.33%). The percentages add to more than 100% because one question could be coded into multiple themes. For all the three themes, sensitive questions outnumbered innocuous ones. Furthermore, none of the questions referred to the three terrorist attacks that occurred during the data collection period. Perhaps overshadowed by the 2016 US Presidential Election which enjoyed extensive and sustained news coverage, these attacks remained under the radar of the Yahoo! Answers user community.

[Insert Table 1 here]

4.1.1. Solely Terrorist-Centric Questions

Solely terrorist-centric questions deal with terrorists' identity, actions, practices and beliefs. Among the innocuous ones are those mostly seeking terrorism-related facts. Examples include "Who exactly created ISIS?" and "Has the Pentagon ever been attacked by terrorists?" A few questions such as "Is ISIS planning a 911-type attack on USA...?" inquired about terrorists' possible course of action.

The sensitive questions reflected two sub-themes. One shows interest in the clandestine life of extremists. Examples include "How come terrorists scream 'Allah Akbar'...before they behead someone or blow up?" This may come across as offensive because the expression 'Allah Akbar' is a declaration of faith used in Muslim prayer. There was also much interest in how terrorists treated women. This is exemplified through questions such as "ISIS has used many women as sex slaves. Is it lawful in Islam?"

The other sub-theme reflects the potential to foster extreme attitudes and stoke emotions. Questions such as "Does Austria want to be part of the new Islamic caliphate?"

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appeared to be blatantly fishing for new recruits from a specific country. Divisive questions include the likes of “Why do white people think all Muslims are terrorists?”

4.1.2. Solely Consequence-Centric Questions

Solely consequence-centric questions have to do with the effects of terrorism. The innocuous ones reflected three sub-themes. The first deals with the impact on global travel. An example of such questions is “What country ... [is safe from terrorism] to go to a holiday?”

The second sub-theme involves psychological impact. For example, one was a personal identity and existential question, “Will you see me as a terrorist because I am a Muslim?” Another mused, “I only see things getting worse for Muslims...Thinking about wearing a cross. Should I change my name?”

The third sub-theme comprises enquiries on the societal impact of terrorism. This is evident from questions such as “Does terrorism lead to adolescent depression?”

The sensitive ones carry themes that mix terrorism with broader social issues such as religion and sexual orientation. This is evident from questions such as “...beside(s) being a terrorist...what have your filthy Islamic followers contributed to the society and science in recent times?” and “Is gay marriage more evil than ISIS?” These questions trigger ill-feelings across religious and social fault-lines that can potentially lead to violence.

4.1.3. Solely Action-Centric Questions

Solely action-centric questions focus on interventions to tackle terrorism. Users looked for solutions in governments. Incidentally, counter-terrorism featured among the most important voting issues in the 2016 US presidential election, which fell within the data

collection window of this paper. The innocuous questions had a benign tone. An example is “Should the U.S and Russia fight together to destroy ISIS?”

In contrast, the sensitive questions stoked violent attitudes in dealing with terrorists. This can be seen from questions such as “What is the best way to slaughter a Muslim terrorist?” and “Do you hope Trump brings back torture [as punishment for terrorists]?”

Additionally, there were references to President Trump’s policy in January 2017 to impose a temporary ban on several Muslim-majority countries from travelling to the US (BBC, 2017). This can be seen from questions such as “Do you ag(r)ee with Donald Trump that we should ban Muslims coming from countries seized by ISIS, Al Qaeda and other terrorists?” and “Since Saudi Arabia is a known funder of terrorism, why doesn't Trump's new ban extend to them?”

4.1.4. Questions Reflecting Multiple Themes

One question could be coded into multiple themes. Innocuous questions that were both terrorist- and consequence-centric include “Will ISIS and bad Muslims invade us all and cause WW3?” and “Why are terrorist’s [sic] trying to hurt the beautiful Paris, France?” Examples of sensitive questions belonging to these two themes are “Muslim terrorists believe they are doing good? Does religion warp a person's sense of morality so badly that they think doing indescribable evil is actually doing good?” and “Most of the terrorists attack are from Muslim men. Why do they bomb buildings, molest little boys and girls..., and treat women like worse than a pile of garbage?” While seeking to know more about terrorists’ actions and beliefs, these questions also show a palpable sense of anxiety.

A few questions focused on both consequences of and actions against terrorism. Innocuous questions often invoked the divine as seen in “What would you do if you were a God [to fight terrorism]?...” and “...Should the U.S. stay out of it [terrorism]... and let Allah

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sort it out? ” The sensitive questions reflected ill-feelings: “Why is it that after everything horrible ISIS does to our citizens why are there idiots who believe we shouldn't do anything to them?” and “What would you have done differently than the victims on September 11 if you were on the plane that crashed...? If I was on the plane, I would have killed all the terrorist myself....”

Only two questions were coded as both terrorist- and action-centric. They were sensitive and expressed the supposed injustice that terrorists suffer. One asked, “I just watch the news & they showed a security guard shooting down a Russian ambassador. Now I feel sensitized and shocked...is that a demonstration video of how police take down terrorist?” The other inquired, “Why can't conservatives seem to grasp the concept of ‘innocent until proven guilty’ when it comes to Muslims? they lock up suspected terrorists at gitmo without trial, what if some of them are innocent?????”

Only one double-barrelled question, which was innocuous, reflected all the three themes. It is as follows: “...problem = terrorism, crime, shootings? How did [terrorists] become so radicalized? What do we do with them?” It asked about terrorists’ beliefs (terrorist-centric), highlighted problems such as “crime” and “shootings” that the society has been facing (consequence-centric), and called for ways to deal with terrorism (action-centric).

4.2. Answer Characteristics across Question Themes (RQ 2)

The 300 questions in the dataset cumulatively attracted 2,194 answers. Of these, 1,287 were in response to sensitive questions whereas the remaining 907 were in response to innocuous ones. The average number of answers per question was 7.31 (min=1, max=53). The question “Why do white people think all Muslims are terrorists?” garnered 53 responses, the highest among all the questions. Table 2 summarizes the characteristics of answers in the dataset.

Five patterns stand out. First, answers were generally straight-to-the-point regardless of the question's theme and innocuity. In other words, answerers responded as required and did not veer off-topic. To delve deeper, given that the variables were categorical in nature, non-parametric cross-tabulation analysis was conducted. Directness of answers did not vary significantly with either the themes or the innocuity of questions. Direct answers were aplenty. For example, the question "Does Austria Want to be part of the New Islamic Caliphate?" received to-the-point responses such as "People with working brains definitely do not..." Questions such as "What should be done to people who say bad things about Islam?" attracted both harmless and provocative responses, which were to-the-point. A harmless answer includes "Nothing. There should be no consequences for saying anything bad about anything." In contrast, a provocative answer shouted, "KILL THE INFIDELS!"

Second, answers were generally non-emotive regardless of the question themes. Nonetheless, among the emotive ones, answers were laden more with negative than positive emotions. A significant difference arose with respect to question innocuity, $\chi^2(2, N=2194)=16.13$, Cramer's $V=0.09$, $p<0.001$. Specifically, among the 1,287 responses to sensitive questions, the proportions are as follows: 942 non-emotive (73.19%), 314 negatively emotive (24.40%), and 31 positively emotive (2.41%). Similarly, among the 907 entries answering innocuous questions, 731 were non-emotive (80.60%), 161 negatively emotive (17.75%), and only 15 positively emotive (1.65%).

Third, negative emotions were quite prominent in answers to sensitive action-centric questions (25.67%, cf. Table 2). Of particular note is the question "What is the best way to slaughter a Muslim terrorist?" that garnered answers reflecting hate speech and Islamophobic sentiments: "It's not worth wasting much time on such scum," and "Fire at him from an AK-47, cremate corpse and flash the ashes down the toilet,"

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In contrast, positive emotions were forthcoming in response to innocuous consequence-centric questions (2.98%, cf. Table 2). This was particularly true for questions that highlighted the psychological impact of terrorism on individuals. For example, the question “[With so much terrorism around]...I wish I was NEVER born. If you had the option, would you choose nonexistence?” attracted compassionate answers: “No... Life is full of highs and lows, that's just how it is and we need to make the best of it.” Another positively emotive answer to the question almost offered a spiritual lesson: “I have attempted suicide 4 times... But 12 yrs ago when I turned to God things got better each year.”

Fourth, the verifiability of answers was abysmally low. Like directness, verifiability of answers varied significantly with neither questions’ themes nor innocuity. A question that received an answer with an active URL asked, “What do you think of how ISIS and Taliban treat women?” The response lashed out, “I watched...[URL to a video on Liveleak, a video-sharing website] a gang of screaming Afghani men stone a girl to death...The way women are treated in Muslim countries is disgusting.”

Finally, all else being equal, answers garnered more UpVotes (1.15 ± 1.51 , Min=0, Max=10) than DownVotes (0.82 ± 1.29 , Min=0, Max=11). Interestingly, responses to sensitive questions (UpVotes: 1.22 ± 1.59 ; DownVotes: 0.88 ± 1.29) attracted significantly more UpVotes as well as DownVotes compared with those answering innocuous queries (UpVotes: 1.06 ± 1.37 ; DownVotes: 0.75 ± 1.27); $t_{\text{UpVotes}}(2111.15) = -2.55$, $p_{\text{UpVotes}} = 0.01$; $t_{\text{DownVotes}}(2192) = -2.01$, $p_{\text{DownVotes}} = 0.04$. Put differently, the CQA community was more engaged with terrorism-related questions if they were sensitive rather than innocuous.

[Insert Table 2 here]

Further exploratory analyses were conducted to ascertain any significant relations between community approval and the other dimensions of answer characteristics. The only

statistically significant result was that negatively emotive answers received greater community approval than neutral ones. A one-way analysis of variance of the three levels of answer emotiveness yielded a significant result for UpVotes; $F_{\text{UpVotes}}(2,2191)=9.32$; $p_{\text{UpVotes}} < 0.001$; $\eta_{\text{UpVotes}}^2 = 0.008$. Tukey's post-hoc test confirmed that the number of UpVotes in answers reflecting negative emotions (1.37 ± 1.73) was significantly greater than those in non-emotive answers (1.11 ± 1.44).

4.3. Users' Anonymity, Question Themes and Answer Characteristics (RQ 3)

Table 3 shows the level of anonymity in terrorism-related content posted on Yahoo! Answers. Specifically, 124 out of 300 questions, and 342 out of 2,194 answers were anonymous. Although asker anonymity did not differ significantly across the three question themes, there was a significant difference between askers' anonymity and the innocuity of questions ($\chi^2(1, N=300)=19.71$, Cramer's $V=0.26$, $p < 0.001$).

Only 33 of the 125 innocuous questions were posted anonymously (26.4%) while 91 of the 175 sensitive questions were anonymous (52%). In other words, sensitive questions were more likely to be submitted anonymously than innocuous ones.

In terms of answerer anonymity, there was no significant difference between those responding to sensitive questions and those to innocuous ones. Furthermore, there was no significant difference between anonymous and non-anonymous answers in terms of any of the answer characteristics—directness, emotiveness, verifiability and community approval.

[Insert Table 3 here]

Sensitive questions submitted from under the cloak of anonymity include the likes of “Will ISIS and bad Muslims invade us all...?” and “Was Muhammad, the founder of Islam, a

terrorist?" The former received the following anonymously-posted answer: "Oh kid, forget that term 'Muslims' ... all the major factors responsible [for terrorism] are the globalist elites, doesn't has to be Muslims..." The latter received anonymously-posted Islamophobic answers such as "Yes, he wanted infidels and gays to be killed."

Nonetheless, some sensitive questions were posted by users who provided their profile details. For example, a non-anonymous question maintained an Islamophobic tone: "Some radical Islamic terrorist stabbed people at Ohio state today but People want to get mad at Trump for not letting them in?" It received several non-anonymous answers such as "Provoke and when they hit back call them terrorist, thugs, rapist... What a game" and "...these are indeed radical Islamic terrorists and not just some misunderstood anti-social college student who went nuts." It seems that when askers who posted a sensitive question were prepared to disclose their profile details, answerers responded likewise even if their answers could potentially offend others.

Another example is the following non-anonymous question: "ISIS has used many women as sex slaves. Is it lawful in Islam?" It received nine responses, of which six were anonymous. While the non-anonymous ones were brief and to-the-point (e.g., "Yes," "Yes in the quran"), the anonymous ones were willing to elaborate their viewpoints as in "the (I)slamic faith in the extreme sense is very against women's rights," and "Yes in fact Allah's apostle had many sex slaves. But after fulfilling their wishes and desires he set them free." Unsurprisingly, the veil of anonymity emboldens users to express their thoughts without inhibition.

Besides, two serendipitous results arose. First, even for content posted on Yahoo! Answers non-anonymously, the actual identity of these contributors remained veiled. They chose names including those of celebrities, inanimate objects, and even those that appear to have been created through random keystrokes. Clearly, these users wanted to be recognized

as distinct individuals in the community but were unwilling to take responsibility for the content they created.

Second, users occasionally showed disdain to those who posted anonymously. In particular, some answerers digressed to take a jab at the askers: “so many people afraid to voice their opinions and hide behind anonymity” and “Funny how you just switched to ‘anonymous’...Grow up.” Another answer advised, “If you're so unsure of what you say, or so cowardly that you have to post your opinion anonymously, then maybe you should reconsider speaking.”

5. Discussion and Conclusions

This paper explored the use of CQAs on the topic of terrorism. It investigated three RQs that focused on questions (RQ 1), answers (RQ 2), and users’ anonymity (RQ 3). In response to RQ 1, the paper found three types of questions: terrorist-centric, consequence-centric, and action-centric. On RQ 2, answers were found to be laden with negative emotions reflecting hate speech and Islamophobia, making claims that were rarely verifiable. Finally, on RQ 3, the paper showed that users who posted sensitive content generally remained anonymous.

5.1. Key Findings

Three key findings are worthy mentioning. First, proselytization is possible on CQAs through both questions and answers. Questions such as “Does it bother liberals knowing that 35 ISIS terrorists were killed in an ambush in Syria today?” could stoke emotions and trigger empathy for extremists. Moreover, even innocuous questions such as “Will ISIS and bad Muslims invade us all...?” received anonymously-posted tendentious and digressive answers such as, “Oh kid, forget that term ‘Muslims’ ... all the major factors responsible [for

terrorism] are the globalist elites, doesn't has to be Muslims...” Clearly, questions and answers can be used to paint terrorists as victims of circumstances rather than aggressors. In addition, terrorists may monitor CQA content to fish for new recruits. For example, they can spot and radicalize seemingly vulnerable users (Johnson et al., 2016; LaFree, 2017; Steinbach, 2016), who post content such as “I just watch the news & they showed a security guard shooting down a Russian ambassador. Now I feel sensitized and shocked...is that a demonstration video of how police take down terrorist?” While the literature has shown social media to be a tool for cyber radicalization (Klausen, 2015; McKeown, 2017), this paper is the first to find evidence—albeit not overly pervasive and expectedly so—that CQAs can potentially promote Jihadist sentiments through subtle means.

Second, a culture of trolling exists on CQAs. The literature suggests three forms: one form is meant for fun and is known as kudos trolling, the second is intended to insult and is referred as flame trolling, and the third is characterized by extravagant nastiness and is called e-bile (Jane, 2014; March and Marrington, 2019). While kudos trolling was limited, evidence for flame trolling and e-bile was aplenty. Users rebuking others for posting anonymously—for example, “Funny how you just switched to ‘anonymous’...Grow up”—is an example of flame trolling. The invective in the Islamophobic answer “Feed them to hungry pigs” in response to the question “What is the best way to slaughter a Muslim terrorist?” represents e-bile (Jane, 2014). Overall, the topic of terrorism on CQAs seems to create a supercharged emotional cyber-atmosphere that breeds hate speech. This explains why sensitive terrorism-related questions attracted more responses than innocuous ones did, and that more UpVotes were found among answers containing negative emotions than those which were positive or neutral. Out of a warped sense of pride, CQA users are enthused to play to the gallery through flame trolling and e-bile.

Third, CQA users mostly refrain from disclosing their real identities in posting contentious content. Sensitive questions were significantly more likely to be submitted anonymously than innocuous ones. While no significant difference arose with respect to answers, the paper found that users' real identities were seldom recognizable. Using names non-traceable to themselves, CQA users become embolden to use provocative, inflammatory or uncivil language. Thus, the paper not only lends support to the notion of disinhibition complex (Mondal et al., 2017; Suler, 2004) but also extends it by identifying two different shades of online anonymity. One shade represents pure anonymity where no identifying information is present; the second is quasi-anonymity, where users desire to be recognized as distinct individuals but do not disclose identifying information. Both seem equally conducive to disinhibition.

5.2. Contributions

The theoretical contribution of the paper is three-fold. First, it is the earliest work to investigate the topic of terrorism on CQAs. The confluence of two black swan events has raised the alarm bells on the use of social media tools for terrorism purposes (Steinbach, 2016). This paper dovetails the literature by analysing terrorism-related content on CQAs, where users who are not socially connected are given the opportunity to interact.

Second, with the test case of Yahoo! Answers, the paper offers fresh insights into the literature on terrorism and social media. By tracing the themes of questions submitted, it uncovers the gamut of information needs of the online community ranging from the clandestine life of extremists and Donald Trump's counter-terrorism policies to psychological and societal impact. Among answers returned, the paper finds negative emotions more prevalent than positive ones. In terms of users' anonymity, it shows how the disinhibition

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complex allows unfettered latitude for netizens who conceal their identities to articulate their questions and views on terrorism.

Third, the paper offers a new direction for CQA research. Previous studies have identified some bizarre uses of CQAs. For example, Bowler et al. (2012) suggested that Yahoo! Answers could be used by professional authors to solicit ideas on storylines. This paper identifies yet another outrageous use: proselytization. Existing CQA research which often focuses on predicting questions likely to be answered, and answers likely to receive community endorsement could be expanded to include detection of sensitive content. Questions and answers that contain extremist flavours must be identified and nipped in the bud.

Public pressure has been mounting for social media giants such as Facebook and Twitter to do their bit in curbing the spread of terrorist ideologies and extremist content. To this end, different approaches, including the use of human moderators and machine learning algorithms, have shown promising signs to block terrorist accounts and remove undesirable content (Leetaru, 2018, Lomas, 2018). It seems that CQAs are left out of the picture even though they could be exploited by terrorists for proselytization, as shown in the findings. Hence, on the practical front, this paper suggests that governments and law enforcement agencies collaborate with major social media companies to develop a process for cross-platform blacklisting of users and content, as well as identifying those who are vulnerable.

Next, CQAs such as Yahoo! Answers too can play a part. Removing the anonymity option, for example, ensures users do not shirk responsibility for the content they create. Additionally, filters could be used to detect sensitive language when users proceed to submit content. While kudos trolling and flame trolling may still be allowed to embody the democratic ideals of free speech, the filters must minimally stop e-bile and detect entries that promulgate political insurgency, breaches to national security, or acts of terror.

5.3. *Limitations and Future Work*

The findings from paper have to be viewed in light of three limitations. First, data were collected and analysed from a single platform. Captured as a snapshot in time, the scope for triangulation was limited. Second, even though several provocative questions and answers were found, it remains unclear whether those postings were contributed innocently or with nefarious agenda. After all, the authors had no access to content contributors. Third, anonymity was operationalized based on whether a given user had chosen not to use a username on Yahoo! Answers. This operationalization could not track users who use fictitious usernames, which are in any case impossible to differentiate from genuine usernames.

Interested scholars could extend the current work by drawing data from multiple platforms such as Answerbag and Quora, and over a longer timeframe, and use the enlarged dataset to detect content with a flavour of hate speech and radicalization. Social network analyses could also be carried out to identify groupings among users. Additionally, algorithms, including those that seek to predict potential answerers (Le and Shah, 2018) could be used to identify high-risk individuals with a proclivity for spreading terrorist ideology.

Another line of investigation involves contacting and interviewing named users who posted terrorism-related content on CQAs. The intent is to probe into their underlying motives, expectations and sentiments towards CQAs. Hopefully, with deeper insights, we can keep CQAs safe for users to ask questions and receive answers, just as these platforms were originally intended.

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Table 1: Themes and innocuity of questions with examples from each sub-theme.

Themes	Innocuous Questions	Sensitive Questions	#
Terrorist-centric	22/53 <ul style="list-style-type: none">Seeking facts on terrorism: “Who exactly created ISIS?”	31/53 <ul style="list-style-type: none">Showing interest in the clandestine life of extremists: “How come terrorists scream ‘Allah Akbar’...before they behead someone or blow up?”Fostering extreme attitude: “Does Austria want to be part of the new Islamic caliphate?”	53/300 (17.67%)
Consequence-centric	55/155 <ul style="list-style-type: none">Inquiring the impact on global travel: “What country ... [is safe from terrorism] to go to a holiday?”Inquiring the impact on personal identity: “Will you see me as a terrorist because I am a Muslim?”Inquiring on social impact: “Does terrorism lead to adolescent depression?”	100/155 <ul style="list-style-type: none">Mixing terrorism with religion: “...beside(s) being a terrorist...what have your filthy Islamic followers contributed to the society and science in recent times?”Mixing terrorism with social fault-lines: “Is gay marriage more evil than ISIS?”	155/300 (51.67%)
Action-centric	60/124 <ul style="list-style-type: none">Looking to governments: “Should the U.S and Russia fight together to destroy ISIS?”	64/124 <ul style="list-style-type: none">Stoking violent attitudes in dealing with terrorist: “What is the best way to slaughter a Muslim terrorist?”Referencing Trump’s policy: “Do you ag(r)ee with Donald Trump that we should ban Muslims coming from countries seized by ISIS, Al Qaeda and other terrorists?”	124/300 (41.33%)

Note. Numbers with respect to question themes add to more than 100% because one question could be coded into multiple themes.

Table 2: Characteristics of answers to questions of each theme.

Questions		Answers					
Themes	Innocuity	#Ans	DIR %	EMO %		VER %	COM
				+	-		
Terrorist-centric questions (N=53)	Innocuous (n = 22)	162	72.84	0	14.20	2.47	U: 1.49 ± 1.47 D: 1.06 ± 1.43
	Sensitive (n = 31)	231	60.17	0.86	21.64	1.30	U: 1.01 ± 1.27 D: 0.62 ± 1.09
Consequence-centric questions (N=155)	Innocuous (n = 55)	402	69.65	2.98	16.67	1.49	U: 1.15 ± 1.44 D: 0.78 ± 1.37
	Sensitive (n = 100)	785	67.89	2.16	23.57	1.91	U: 1.21 ± 1.51 D: 0.94 ± 1.30
Action-centric questions (N=124)	Innocuous (n = 60)	428	72.20	0.70	21.50	0.93	U: 0.85 ± 1.20 D: 0.68 ± 1.13
	Sensitive (n = 64)	483	67.70	2.89	25.67	3.31	U: 1.26 ± 1.75 D: 0.82 ± 1.27

Note. Numbers with respect to question themes add to more than 300 because one question could be coded into multiple themes. #Ans = Number of answers; DIR % = Percentage of Directed answers; EMO %: “+” = Percentage of positively emotive answers, “-” = Percentage of negatively emotive answers; VER % = Percentage of verifiable answers; COM = Community Approval. U = UpVotes, D = DownVotes, for which the means and the standard deviations are reported.

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Table 3: CQA content as a function of users' anonymity.

Questions		Askers		Answers									
Themes	Innocuity	A	N	A					N				
				T	D	+	-	V	T	D	+	-	V
Terrorist-centric questions (N=53)	Innocuous (n = 22)	5	17	26	14	0	3	1	136	104	0	20	3
	Sensitive (n = 31)	14	17	41	24	0	9	0	190	112	2	41	3
Consequence-centric questions (N=155)	Innocuous (n = 55)	17	38	67	38	0	3	0	335	242	11	56	6
	Sensitive (n = 100)	55	45	122	82	3	35	4	663	451	14	150	11
Action-centric questions (N=124)	Innocuous (n = 60)	14	46	71	49	2	10	2	357	260	1	82	2
	Sensitive (n = 64)	30	34	70	46	2	22	0	413	281	12	102	8

Note. Numbers with respect to question themes add to more than 300 because one question could be coded into multiple themes. A = Anonymous; N = Non-Anonymous; T = Total number of answers, D = Number of direct answers; “+” = Number of positively emotive answers; “-” = Number of negatively emotive answers; V = Number of verifiable answers.