

Counter Narratives in Social Media – An Empirical Study on Combat and Prevention of Terrorism

**Amanda Langer¹ & Marc-André Kaufhold^{1,2} & Elena Maria Runft¹
& Christian Reuter² & Margarita Grinko¹ & Volkmar Pipek¹**

Institute for Information Systems, University of Siegen¹

Science and Technology for Peace and Security (PEASEC), TU Darmstadt²

amanda.langer@uni-siegen.de; marc.kaufhold@uni-siegen.de; reuter@peasec.tu-darmstadt.de;
volkmar.pipek@uni-siegen.de

ABSTRACT

With the increase of terrorist attacks and spreading extremism worldwide, countermeasures advance as well. Often social media is used for recruitment and radicalization of susceptible target groups. Counter narratives are trying to disclose the illusion created by radical and extremist groups through a purposive and educational counter statement, and to initiate a rethinking in the affected individuals via thought-provoking impulses and advice. This exploratory study investigates counter narrative campaigns with regard to their fight and prevention against terrorism in social media. Posts with strong emotions and a personal reference to affected individuals achieved the highest impact and most reactions from the target group. Furthermore, our results illustrate that the impact of a counter narrative campaign cannot be measured solely according to the reaction rate to their postings and that further analysis steps are therefore necessary for the final evaluation of the campaigns.

Keywords

Counter Narratives, Online Campaign, Social Media, Terrorism, Radicalization.

1. INTRODUCTION

Information technology plays a major role in context of peace and security (Reuter, 2019). Social media are increasingly used by terror organizations such as the Islamic State (IS) to recruit new fighters, for internal communication and as a marketing platform to promote their own victories as well as their ideology (Neer and O'Toole, 2014). At the same time, they are also used by governments, organizations and private persons who are fighting against terrorism (Reuter et al., 2017b). During the past years, many different strategies to prevent terrorism and its extension in social media have been developed. Educational messages should display and refute the content spread by the IS in a corrected form, e.g. by using parodistic images.

“Counter narratives” is a method that has been getting more important in the last years to challenge extremist campaigns in social media (Briggs and Feve, 2013; Schmid, 2014). According to Tuck and Silverman (2016), a counter narrative opposes extremist narratives by offering counter arguments, revealing harmful and contradictory content, decreasing trustworthiness and emphasizing positive instead of negative notions. As extremist narratives, we understand all expressions by recognized terrorist groups that aim to justify their cause, radicalize their audience and even recruit followers, while terrorism is defined as “violence intended to force changes in political decisions, actions, or relationships where victims are targeted without regard for their degree or form of involvement in the conflict” (Turk, 2015). For an effective and successful application of counter narratives, the original narrative must be identified, decrypted and understood (ibid.). In comparison to counter narratives, however, other campaigns achieved more success during the last five years (Russell and Rafiq, 2016). Accordingly, our exploratory study intends to answer the research questions: **(RQ1) What are characteristics of social media posts that elicit the most reactions by the target group of counter narratives? (RQ2) What are potentials to improve the impact for counter narrative campaigns in social media?**

As a first part of the investigation, there will be a theoretical introduction to the method “counter narratives”, as well as an overview of the related work in this context to illustrate the research gap (section 2). Afterwards, the

approach of the data collection, reduction and analysis will be exemplified (section 3). The next section presents the results in the form of identified categories, which merge the most popular social media posts in counter narrative campaigns (section 4). These results will be discussed and evaluated to conclusively answer the research questions, reveal the limitations of the study and give an outlook for further research (section 5).

2. BACKGROUND AND RELATED WORK

It has become evident in recent examples, such as the bombings in Brussels in March 2016, that social media users perform an important role providing information and support in scenarios where confusion is prevalent, and are sometimes faster than traditional media sources (Hughes et al., 2008; Mirbabaie and Zapatka, 2017). Although many citizens still do not feel concerned by conflicts and crises themselves (Reuter et al., 2017a), they consider it important to be warned, informed and instructed by authorities and sometimes rely on social media even more than other forms of information and communication technology (ICT) when it comes to crises (Shklovski et al., 2008). The use of ICT in the disaster context has been researched for more than a decade under the term of *crisis informatics* (Soden and Palen, 2018). In terrorism, social media occupy an important key role between the participating actors, as they operate both in the center of terror propaganda and counter-terror propaganda (Kaufhold and Reuter, 2019). Due to their diffuse and collaborative characteristics, social media can help distribute up-to-date information to broader audiences and yield fast reactions, and thus has the potential to act as an impulse for producing change in communication patterns as well as in society (Fischer et al., 2016; Reuter and Kaufhold, 2018). Therefore, we focus on social media as an important channel of the dissemination of terrorist propaganda and counter narratives.

2.1 Narratives as a Propaganda Tool

The term “*narrative*” originated from the social sciences and describes a story as a manifestation of social practice (Gubrium and Holstein, 2009). As a construction of stories (Halverson et al., 2011), the process of narration is dynamic and permanently changing the outcome (Gubrium and Holstein, 2009). Narratives are also used to convey moral messages and ideologies (Schmid, 2014). Consequently, we can gain insights in how cultural groups view the world framed by their emotions, opinions, attitudes and values: “Narratives are powerful resources for influencing target audiences” (Corman, 2011, p. 42). They provide an alternative form of reality whose basis is deeply rooted in culture and can be effectively used to interpret and shape local events, as well as to strategically promote specific types of individual operations. The impact of these narratives appears through the coherences and trustworthiness for the target audience (Goodall Jr, 2010), so that narratives have an importance for terrorism, extremism and radicalization. Narratives are used in terrorism to promote violence and in extremism to facilitate values which abandon human rights to recruit exposed persons for their own use (Russell and Rafiq, 2016). Extremist narratives are a composition of ideological, political, moral, religious and social narrations which are based on true or phantasmal stories (Briggs and Feve, 2013). As a consequence, black and white thinking emerges along with desensibilization, dehumanization, victimization and a call for activism and militancy. The IS uses the characteristics of narratives for its own propaganda and ideology. The mentioned topics can be divided into six categories: brutality, compassion, war, sacrifice, affiliation and utopianism (Winter, 2015). Within the last five years, the counter-movement of counter narratives evolved to refute their narratives.

2.2 Counter Narratives

Counter narratives reveal an alternative view of the problem and, ideally, lead to a new appreciation and a rethinking of the topic. The guideline from “The Counter-Narrative Handbook” defines counter narratives not only as a counterstatement to another narrative, but additionally as a “message that offers a positive alternative to extremist propaganda, or alternatively aims to deconstruct or delegitimize extremist narratives” (Tuck and Silverman, 2016). Their aim is to reveal hypocrisy and discrepancies in extremist propaganda and to undermine the trustworthiness of extremist groups. Counter narrative campaigns can spread from civil society, youth campaigns and non-governmental campaigns to strategic communication of the government. A campaign should follow a comprehensive goal and a number of specific, measurable and accessible sub-goals for self-control. Furthermore, the characteristics of the audience should be determined, e.g. based on stereotypes (Tuck and Silverman, 2016) and by examining their online behavior (Van Ginkel, 2015). The message should be carefully chosen and designed, and the actors’ trustworthiness should be considered. To get a high range of influence for counter narrative posts in social media, it seems to be an effective method to frame the posts with keywords which are used likewise in posts by extremists (Van Ginkel, 2015). According to Tuck and Silverman (2016), inherently provocative campaigns promote reaction from the audience.

3. METHODOLOGY

To gain insights into the presented research issues, our method comprises the 1) identification of relevant social media campaigns, 2) data collection and reduction, as well as 3) data evaluation using grounded theory.

3.1 Identification of Campaigns

As a first step we identified popular (campaigns which have many followers on Twitter or likes on Facebook: *Average Mohamed*, *Abdullah-X*, *Think Again Turn Away*, *UK against Daesh*) or current (new campaigns which exist only since 2016: *FATE*, *Extremely Together*) campaigns to obtain a short overview of methods and impact in this area between April 2013 and March 2017. Our summary includes the description of the campaign, its strategy, an evaluation as well as a summarized conclusion based on our own observation (Table 1).

Campaign name, organizer and time frame	Strategy	Evaluation	Conclusion
#ThinkAgainTurnAway since March 2016: The Global Engagement Center U.S. State Department December 2013 until October 2016	• Daily posts on current events, links to related websites and similar campaigns, information about the IS, using known hashtags • (<i>#DeashLiesExposed</i>) • Directly addressing IS accounts • Target audience: Not defined, “one size fits all”	• >27.000 followers on Twitter • >11.000 likes on Facebook • (Negative) coverage in newspapers	• Highly criticized campaign • One-sided communication, conservative use of social media • Involvement in discussions with IS followers, articles from questionable sources • Government as unsuitable message deliverer
UK against Daesh UK government since July 2015	• Daily tweets on current events, links to related websites, spreading UK narratives, revealing progress in fighting the IS, using known hashtags (<i>#DefeatingDaesh</i>) • Creating surveys and Q&A sessions • Target audience: English-speaking public	• >21.000 followers on Twitter	• Interaction with followers, attempts of a two-sided communication with the audience • Government as unsuitable message deliverer
Average Mohamed Non-profit organization by Mohamed A. Ahmed since July 2014	• Production of 1-minute cartoon videos on topics such as religion, politics and culture in order to refute extremist narratives with logical arguments • Main topics: Peace, democracy, anti-extremism • Target audience: Young American Muslims (8-16 y.o.)	• >80.000 website views in the first year • >160.000 total views on YouTube • Coverage on TV and in newspapers	• Popular campaign • Regularly maintained social media pages with further information • Engagement by Ahmed at schools and universities
Abdullah-X Anonymous (former extremist) August 2013 until the end of 2016	• Production of short cartoon videos on current events and topics youth are concerned with. Here, the former extremist is using his own experience and knowledge to reveal narratives • Target audience: Adolescent British Muslims (10-24 y.o.)	• >50.000 views on YouTube during 6-week test phase, >130.000 views in total • >1.000 followers on Twitter • Coverage on TV and in newspapers	• Campaign with great audience engagement in discussing and sharing the videos • High viewer retention rate
Extremely Together Kofi Annan Foundation since April 2016	• Team of 10 young people of different origins with anti-extremism experience, who present ideas, exchange experiences and provide suggestions for the collective fight against terrorism • Links to related websites, sharing information events, creating surveys • Target audience: Young Muslims with potential for recruitment	• >8.000 likes on Facebook • >1.000 followers on Twitter • >7.000 total views on YouTube	• Little popularity (so far), few reactions from audience • Online and offline presence • Interaction with audience, information events

Campaign name, organizer and time frame	Strategy	Evaluation	Conclusion
Families against Terrorism and Extremism (FATE)	• Pan-European network of families and organizations • Daily postings on current events, information on the IS, emotional appeals, links to related websites and campaigns, early detection of radicalization process • Target audience: Young Muslims with potential for recruitment and their families	• Reaching >1,5 mil. users on Twitter and >2.500 on Facebook in 6-week test phase • Worldwide range of >600 mil. people • Coverage on TV and in newspapers	• Wide range, multilingualism, multimedia internet presence • Online and offline presence • Interaction with audience: Events, workshops, counseling
Independent consortium of 20 European CVE groups since March 2016			

Table 1. List of campaigns, strategies and evaluation data (source: own research)

3.2 Data Collection and Reduction

Based on the derived overview of different campaigns, we started our data collection by reviewing all posts from the Facebook and Twitter timelines of the respective campaign accounts. In the case that YouTube videos are the basis of the campaign, the user comments supply the collected data. The period under review varied between the different campaigns based on the availability of data and the existence of the campaign at that time, but overall, the period under review was between April 2013 and March 2017, and includes a data set from $n > 10.000$ findings (Table 2).

For an appropriate subsequent evaluation of the data, the quantity was reduced to 500 posts by limiting them to those with a response rate of at least 10 reactions. The campaigns' own retweets were not counted towards the other posts because they mainly represent reactions to other sites instead of the actual campaign, while we were interested in original content. *Abdullah-X* reached less than 50 posts after the reduction and was not considered in the following analysis. The campaign *FATE* had too few posts as well, which is why only the data from the Twitter account was considered. The amount of relevant posts by *UK against Daesh* was still too high, so the posts were reduced from 174 to 102 while sorting out redundant posts (Table 2). While the quantity of posts does not directly influence the results of a qualitative approach, it helps maintain the overview for a better comparison and categorization of posts.

Campaign	Medium	Period	Posts before reduction	Posts after reduction
The GEC	Facebook	2015-08-06 to 2016-05-26	906	89
UK against Daesh	Twitter	2016-05-08 to 2017-03-24	3,206	102
Average Mohamed	Facebook	2014-05-16 to 2017-03-23	329	27
	Twitter	2013-04-13 to 2017-03-23	341	99
	YouTube	End of 2014/2015 to 2017	99	
Abdullah-X	Twitter	2013-08-27 to 2016-11-09	1,033	7
	YouTube	Start of 2014 to 2017	41	41
Extremely Together	Facebook	2016-05-24 to 2017-03-24	374	33
	Twitter	2016-05-23 to 2017-03-24	708	40
FATE	Facebook	2016-11-19 to 2017-03-22	348	62
	Twitter	2016-08-24 to 2017-03-24	3,241	
Total			9,346	500

Table 2. Sources and periods of collected data

3.3 Data Evaluation using Grounded Theory

The qualitative data evaluation was carried out based on the grounded-theory method according to Glaser and Strauss (1967), which is characterized by a constant change between data collection and reflection, so that a continuous dialog takes place between pre-assumptions and the gathered data. For the encoding of the data, the procedure by Strauss and Corbin (1996) was used, a method where the data material is coded ad hoc – which means assigning it to a code which best describes the piece of data in relation to the whole data material – and the category scheme emerges gradually. Additionally, we used knowledge gained from our literature review to adjust our categories. Throughout the analysis process, the following core categories have been revealed: *Success*,

failures, linguistic differences, self-promotion, localization, visualization and suggestions. Subsequently, the posts inside the categories were evaluated for significant characteristics and qualities. The categories are characterized as follows:

- **Success:** differentiation between general achievements, and success in terms of failures of the IS. (a) negative expressions (e.g., “decrease”, “lost”, “problems”), messages on IS failures; (b) positive expressions (e.g., “successful”, “help”, “beautiful”), campaign success, establishment of countermeasures
- **Determent:** negatively connotated expressions and emotions (e.g. “hate”, “grief”, “lie”), emphasis on reality, revelation of deficiency, personal fates, emotional appeals / warnings
- **Self-promotion:** mentioning their own campaign and internal hashtags, interaction with the audience (call to action, questions, surveys), announcement of campaign events
- **Linguistic Differences:** analysis of the personal pronouns “we”, “I”, “they” as well as their declined forms
- **Localization:** naming specific cities / countries as well as expressions including the word “world” (e.g., “worldwide”)
- **Visualization:** image and / or video included in a post
- **Suggestions:** specific instructions, prompts to act, imperatives (e.g., “must”, “don’t”), thought-provoking content, abstract expressions (e.g., “belief”, “peace”)

4. EMPIRICAL RESULTS

4.1 Success – Transportation of Success Stories Most Common Category

More than half of the posts can be assigned to the success category (61.4% of the postings). Within the category, they can differ between the following aspects: Failure of the IS, success of the particular campaign or country, and specific examples of the campaign’s achievement. Joy, relief, pride or spitefulness can be a motivation for a reaction to this type of posts. Concrete and concise figures of failure can act as an eye catcher for a faster perception by the audience. In the following example, the loss of territory is addressed and because of that the campaign members classify it as a positive development in the fight against terrorism.

“UPDATE: #Daesh have lost 61% of territory in Iraq & 28% in #Syria [...] #Defeating Daesh #ISIS #ISIL” (@UKagainstDaesh, 48♥55 ♡) (2016-12-26; the status of all quotations is 2017-03-24)

Another facet in the success category consists of reporting on the positive results or advancement of the respective campaign or the country. These success stories’ purpose is to show the effectiveness of the campaign, so that in an ideal case, the audience will be convinced of the respective campaign and support it. Another example clarifies the presentation of the campaign’s own success through emotional posts and highlights the joint effort.

“#Beautiful moment as a father whose son joined #Daesh hugs @MoChirani. FATE brings people together to make us stronger than violent extremism” (@FATE_EN, 16♥10 ♡) (2016-11-16)

Beside these success stories about the campaign, the coverage and support of similar activities falls into this category, emphasizing the common aim to prevent and fight extremism. Posts in this category got a lot of encouragement and an accordingly large number of reactions from the audience.

4.2 Determent – Strong Emotions and Facts Evoke More Reactions

This core category can be subdivided into aspects of clarification, emotional appeal and reporting on the consequences of extremism. Only in two campaigns (*The GEC* und *FATE*), more than half of the successful posts contained warnings (59,5%), whereas in the other campaigns, less than a quarter of posts are concerned (16,7%). An emotional appeal is particularly well suited for the use of counter narratives to touch a deeper level apart from the facts and to evoke a reaction from the audience. These reactions are ideally communicated by relatives and friends of radicalized fighters, in the form of sad or desperate stories. Emotional, personal stories do not have a specific target group; they touch a great number of people, thereby receiving a high encouragement, supporting the audience in feeling empathy and reacting accordingly to the posts.

“Extremely together’s Ilwad Elman experienced the ongoing Syrian horrors first hand. He explains how seductive the lure of extremists in broken society can be and what must be done to resist them.” (Extremely Together via Facebook, 24 🍷 34 ➡) (2016-05-26)

In contrast to emotional posts, there are fact-based reports on deficiencies in crisis areas. Whereas the official instances such as government accounts aim to inform the audience and give them the opportunity to participate in current events, other campaigns try to actively take action against the consequences.

4.3 Self-Promotion – Campaigns Enlarge their Range of Influence

Posts assigned to the self-promotion category aim to publish announcements, recruit new members or generate information from the audience. Most campaigns use more than two third of their posts for self-promotion. In total, self-promotion is mentioned in 61% of the posts.

“Thrilled to announce we’ll be gathering in Brussels this month to launch our new #CVEtoolkit! Stay tuned [...]” (@Xtremely2gether, 14♥ 11 🍷) (2017-03-17)

The low rate of self-promotion posts by government campaigns can be traced back to the missing individual character, like an introduction of new members etc. Via self-promotion, campaign leaders provide information about their own activities such as events, TV shows or interviews to the audience. Hereby, the campaigns convey activity, up-to-dateness and engagement outside the social platforms. Such posts are designed for interested users to become members of the campaign or to support it. Support can take place through a membership or through financial aid.

“[...] I need your help. We have \$11 dollars in the bank need \$3000 to reach 10,000 folks on Somali Independence Day on July 9th. We need funds to do this. Please do contribute and share with friends. [...]” (Average Mohamed via Facebook, 25 🍷 24 ➡) (2016-06-27)

Surveys and direct questions have the purpose to identify the audience’s opinion to get in contact more effectively. A major proportion of the self-promotion serves to recruit new members. Therefore, the project concept is shortly summarized in the posts, or a link to the campaign’s website is included. Highlighting a positive impact of support by the audience should motivate to participate.

“Be part of #ExtremelyTogether. Share this tweet and reach 1.8 billion young people to counter extremism better” (@Xtremely2gether, 133♥ 254 🍷) (2016-09-29)

Besides the membership request, the audience is animated to interact with the posts of the campaign and thus identify with it more strongly, which can happen through a call to action, as well as through direct questions. Additionally, a lot of reactions from the audience imply a more distinct evaluation of the campaign.

4.4 Linguistic Differences – Explicit Distinction between Extremist and Counter Campaigns

The campaigns use linguistic differences between the extremists and their opponents by including different personal pronouns and direct forms of address. There is a differentiation between personal (I), connectedness (we), the others (they) and the direct address (you). The “I” form is used to express personal experiences, thoughts, opinions and feelings. The person in question talks directly to the audience or is directly quoted.

“They killed my parents. But I am still proud to call myself Belgian-Moroccan. “Not a dry eye at FATE right now.” (@FATE_EN, 13♥ 7 🍷) (2016-11-15)

The sense of unity is intensified through emphasizing a common task and a common goal: By combining the forces, the goal can be easily achieved and obstacles can be overcome. “They” is used to include more people, but the speaker is clearly distancing themselves from them. This way, extremism opponents use “we” to draw a clear line between themselves and the terrorists who are referred to as “they”.

“We are with you, we will stand together and take on the task of preventing radicalization in our young people. [...]” (@FATE_EN, 10♥ 4 🍷) (2016-10-14)

The different perspectives of “I” and “we” are used to enhance the audience’s identification with the campaigns, to not only address the counter terrorism movement, but also adolescents who are potential recruits. Government accounts do not apply this change of perspective, because there are no specific persons behind the accounts but employees of the government, who are representative of the whole country. The personal pronoun “we” is the most used personal pronoun inside campaigns and should convey a feeling of community and connectedness.

4.5 Localization – Used by all Campaigns to Strengthen the Benchmark

The posts in this category can be divided into cities or countries, crisis areas, and territorial limitlessness. All campaigns contain posts with location details (46.6% on average). The localization of events or incidents in crisis areas provides more detailed information about the topic of terrorism and counter narratives to the audience: Where is help needed? What countermeasures are taken in my city? Which areas have been taken by the IS?

“Follow us today as we get the #ExtremelyTogetherRoadshow rolling making counter narratives in Portsmouth” (@Xtremely2gether, 7♥ 10👍) (2017-02-07)

In contrast to this, phrases such as “worldwide” are showing the territorial limitlessness of posts. More than half of the most popular posts from government campaigns contain details on localization, for *UK against Daesh* this can be attributed to mentioning their own country in the campaign name. Therefore, it is surprising that a transnationally active campaign such as *FATE* contains the least location specifications.

4.6 Visualization – Pictures and Videos Serve as an Eye Catcher

The visualization of facts is useful in the international context to overcome linguistic barriers. Pictures (53.4%) and videos (26,6%) support the message, so that it is not surprising that all campaigns using visual content and visually supported posts show a higher response rate than purely textual posts.



Figure 1: Characteristic Pictures and Videos

We can differentiate between automatically displayed images, e.g., by linked articles, or consciously placed pictures or video screenshots. An article linked in a post can be viewed as an additional animation for the audience, yet the campaigns have no influence on displayed pictures. The majority of the campaigns’ visual material can be attributed to this preview function. For graphics uploaded by the campaign leaders themselves, the campaigns apply different strategies for the use of visual material. For one part, it is used to introduce the team to create a personal bond with the audience; other motives can be to establish credibility or to visually support the post content. The other part is the promotion of self-produced video material, which are also published on platforms such as YouTube.

4.7 Suggestions – Too Few Thought-Provoking Impulses in the Campaigns

We found suggestions for preventing and fighting radicalization, which can be subdivided into one or more categories such as thought-provoking impulses, suggestions for countermeasures, and appeals. Accordingly, it is surprising that in almost all campaigns, posts with suggestions account for roughly a quarter of the most popular posts (26%). While in *Extremely Together*, at least a bit more than half of the most popular posts can be assigned to the category of suggestions, *UK against Daesh* offers no thought-provoking impulses at all. An important thought-provoking impulse, especially for family members and friends of individuals who have the potential to be recruited, is the sensibilization for the recruiting and extremism issue.

“Has your #friend’s/#daughter’s/#son’s/#sibling’s #behaviour changed quite a lot? Don’t ignore the signs! #radicalisation #findFATE” (@FATE_EN, 10♥ 9👍) (2016-11-22)

Such thought-provoking impulses can be internalized by the audience, but in the fight against extremism, not only the right attitude is crucial, but also the following actions. Therefore, all campaigns provide concrete suggestions how one can actively operate against extremism. Because most of the evaluated counter narrative campaigns concentrate on social media, as a logical consequence, one suggestion which all campaigns give is: Fight extremist ideas online! The campaigns’ prompts mostly contain no specific instructions, but are expressed in a rather abstract way:

“If you see something – say something #OYWottawa #xtremely2gether” (@Xtremely2gether, 19♥ 24👍) (2016-09-29)

5. DISCUSSION AND CONCLUSION

Since 2012, a variety of counter narrative campaigns and projects with the aim to prevent and fight extremism and terrorism have emerged in social media (Tuck and Silverman, 2016). Our paper summarized many of them in Table 1 as a groundwork for our study. In most cases, the decisive criteria of success are set by the campaigns' founders or leaders in relation to their own aims, so that the result will be assessed in accordance with those aims. Their prevention work focusses on the target groups of teenagers who are in danger of being recruited in order to prevent their radicalization, since extremist narratives have the most effect on this target group.

With regard to our first research question (**RQ1: What are characteristics of social media posts that create the most reactions by the target group of counter narratives?**), we found out that success stories, deterrent, self-promotion, linguistic differences, localizations, visualization and suggestions are characteristics of social media posts that promoted most reactions by the target group. The audience prefers posts in the form of reactions connected to a feeling of *success*, since more than 61% of the posts can be assigned to this category. Similarly, personal fates as well as stories of former extremists, victims' family members or campaign leaders are popular (*determent*). The purpose of strong emotions is one of the characteristics responsible for the success extremist campaigns gain with their narratives (Winter, 2015), so it is understandable that those aspects produce the highest effect in a counter campaign as well. While emotional appeals evoke the respective emotion, surveys are more suitable for obtaining required information from the audience. An integrated call to action gives interested persons the opportunity to play an active role (*self-promotion*). For all these fields, photographic material (53% of the posts) and video footage (27%) have an effect as an eye catcher and get a high reaction rate from the audience (*visualization*). The results clearly show that while there is a low number of hints and advices (26%, *suggestions*), the percentage of self-promotion of the campaigns with the attempt to mobilize the audience is much higher (61%).

This leads to the second research question (**RQ2: What are potentials to improve the impact for counter narrative campaigns in social media?**). Firstly, counter narrative campaigns should be integrated with other counterterrorism efforts. One issue is the low degree of popularity in most campaigns, so that the campaign is hardly perceived. Research indicates that reactions and interactions of the audience are much higher for other strategies, such as the approach to fight extremism with humor (Al-Rawi, 2016; Reuter et al., 2017b) in satire-based campaigns such as #TrollingDay. Furthermore, so-called *alternative narratives* are intended to paint a fact-based picture of and give suggestions related to topics discussed in terrorist propaganda (Starbird, 2017). Secondly, while social media are an effective tool to support emergency response and crisis management, this is also true for other ICT (Fischer et al., 2016; Hughes et al., 2008; Kaufhold et al., 2018b; Mirbabaie and Zapatka, 2017; Shklovski et al., 2008; Soden and Palen, 2018). Therefore, an increased cooperation with established formats could increase the coverage and gain more attention for the campaigns' work in general in such a way that the dynamics of countermeasures are not limited to social media, but that the more intensive and convincing interacting with potential target groups can be intensified in real world activities as well. Thirdly, narratives and counter narratives also occur during natural hazards, as the case of FEMA's fail and redemption during the hurricanes Sandy and Katarina demonstrate (Drennan, 2018). Thus, it might be important to integrate the concepts of narratives and counter narratives into authorities' guidelines, policies and strategies (Kaufhold et al., 2018a) in order to identify and refute harmful or wrong narratives.

Our exploratory study is subject to limitations. A large amount of data had to be excluded from further analysis due to the low reaction rate of the audience. However, it could be worthwhile examining and contrasting the characteristics of posts with low reaction rates by applying a quantitative approach on a larger and more representative data sample. Since most counter narrative campaigns address a very specific target group and do not achieve high reaction rates on their posts, it should therefore be examined whether these posts still can provide starting points to effectively place counter narrative campaigns in social media. Especially from a communicative and linguistic point of view, the posts should be further analyzed to establish a valid distinction between terrorist propaganda and alternative narrations. With regard to ICT, we assume that event detection techniques and machine learning classifiers (Imran et al., 2015) could assist in the identification of extremist content and narratives, thereby establishing starting points for counter narrative actions. Furthermore, user interfaces might support the creation of high-impact social media postings via contentual recommendations based on criteria such as these discussed within our analytical categories.

ACKNOWLEDGEMENTS

This work was supported by the German Federal Ministry for Education and Research (BMBF) in the project KontiKat (13N14351).

REFERENCES

- Al-Rawi, Ahmed (2016). Anti-ISIS Humor: Cultural Resistance of Radical Ideology. *Politics, Religion & Ideology*, vol. 17, no. 1, pp. 52–68.
- Briggs, Rachel; and Sebastien Feve (2013). *Review of Programs to Counter Narratives of Violent Extremism: What Works and What are the Implications for Government?*. London, UK.
- Corman, Steven R. (2011). Understanding the role of narrative in extremist strategic communication. In L. Fenstermacher; T. Leventhal; and S. Canna (eds.): *Countering violent extremism: Scientific Methods & Strategies*. Dayton: Air Force Research Laboratory, pp. 36–43.
- Drennan, Lex (2018). FEMA's fall and redemption - applied narrative analysis. *Disaster Prevention and Management*, vol. 27, no. 4, pp. 393–406.
- Fischer, Diana; Oliver Posegga; and Kai Fischbach (2016). Communication Barriers in Crisis Management: A Literature Review. In *European Conference on Information Systems (ECIS)*. Istanbul, Turkey: AISel, pp. 1–18.
- Glaser, Barney G.; and Anselm L. Strauss (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine de Gruyter.
- Goodall Jr, Harold L. (2010). *Counter-Narrative: How Progressive Academics Can Challenge Extremists and Promote Social Justice*. London, UK: Routledge.
- Gubrium, Jaber F.; and James A. Holstein (2009). *Analyzing narrative reality*. New York, NY: Sage Publications, Inc.
- Halverson, Jeffrey R.; H. L. Goodall Jr; and Steven R. Corman (2011). *Master narratives of Islamist extremism*. Basingstoke, UK: Palgrave Macmillan.
- Hughes, Amanda Lee; Leysia Palen; Jeannette Sutton; Sophia B. Liu; and Sarah Vieweg (2008). "Site-Seeing" in Disaster: An Examination of On-Line Social Convergence. In *Proceedings of the 5th International ISCRAM Conference*. Brussels, Belgium: ISCRAM, pp. 1–10.
- Imran, Muhammad; Carlos Castillo; Fernando Diaz; and Sarah Vieweg (2015). *A Processing Social Media Messages in Mass Emergency: A Survey*. *ACM Computing Surveys*, Vol. 47. New York, NY: ACM.
- Kaufhold, Marc-André; Alexis Gizikis; Christian Reuter; Matthias Habdank; and Margarita Grinko (2018a). Avoiding chaotic use of social media before, during, and after emergencies: Design and evaluation of citizens' guidelines. *Journal of Contingencies and Crisis Management*, pp. 1–16.
- Kaufhold, Marc-André; and Christian Reuter (2019). Cultural Violence and Peace in Social Media. In C. Reuter (ed.): *Information Technology for Peace and Security - IT-Applications and Infrastructures in Conflicts, Crises, War, and Peace*. Wiesbaden, Germany: Springer Vieweg.
- Kaufhold, Marc-André; Nicola Rupp; Christian Reuter; Christoph Amelunxen; and Massimo Cristaldi (2018b). 112.social: Design and Evaluation of a Mobile Crisis App for Bidirectional Communication between Emergency Services and Citizens. In *European Conference on Information Systems (ECIS)*. Portsmouth, UK: AISel.
- Mirbabaie, Milad; and Elisa Zapatka (2017). Sensemaking in Social Media Crisis Communication – a Case Study on the Brussels Bombings in 2016. In *Twenty-Fifth European Conference on Information Systems (ECIS)*. Guimarães, Portugal, pp. 2170–2186.
- Neer, Thomas; and Mary Ellen O'Toole (2014). The Violence of the Islamic State of Syria (ISIS): A Behavioral Perspective. *Violence and Gender*, vol. 1, no. 4, pp. 145–156.
- Reuter, Christian (2019). *Information Technology for Peace and Security - IT-Applications and Infrastructures in Conflicts, Crises, War, and Peace*. Wiesbaden, Germany: Springer Vieweg.
- Reuter, Christian; and Marc-André Kaufhold (2018). Fifteen Years of Social Media in Emergencies: A Retrospective Review and Future Directions for Crisis Informatics. *Journal of Contingencies and Crisis Management (JCCM)*, vol. 26, no. 1, pp. 41–57.
- Reuter, Christian; Marc-André Kaufhold; Inken Leopold; and Hannah Knipp (2017a). Katwarn, NINA, or FEMA? Multi-Method Study on Distribution, Use and Public Views on Crisis Apps. In *European Conference on Information Systems (ECIS)*. Guimarães, Portugal: AISel, pp. 2187–2201.
- Reuter, Christian; Katja Pätsch; and Elena Runft (2017b). IT for Peace? Fighting Against Terrorism in Social

- Media – An Explorative Twitter Study. *I-Com: Journal of Interactive Media*, vol. 16, no. 2.
- Russell, Jonathan; and Haras Rafiq (2016). *Countering Islamist Extremist Narratives: A Strategic Briefing*. London, UK.
- Schmid, Alex P. (2014). *Al-Qaeda's "Single Narrative" and Attempts to Develop Counter-Narratives: The State of Knowledge*. The Hague, Netherlands.
- Shklovski, Irina; Leysia Palen; and Jeannette Sutton (2008). Finding community through information and communication technology in disaster response. In *Proceedings of the 2008 ACM conference on Computer Supported Cooperative Work (CSCW '08)*. New York, NY: ACM, pp. 127–136.
- Soden, Robert; and Leysia Palen (2018). Informing Crisis: Expanding Critical Perspectives in Crisis Informatics. In *Proceedings of the ACM on Human-Computer Interaction*. New York, NY: ACM.
- Starbird, Kate (2017). Examining the Alternative Media Ecosystem Through the Production of Alternative Narratives of Mass Shooting Events on Twitter. In *Proceedings of the Eleventh International Conference on Web and Social Media*. Palo Alto, CA: AAAI Press, pp. 230–239.
- Strauss, Anselm; and Juliet Corbin (1996). *Grounded Theory: Grundlagen Qualitativer Sozialforschung*. Weinheim, Germany: Beltz.
- Tuck, Henry; and Tanya Silverman (2016). *The Counter-Narrative Handbook*. London, UK.
- Turk, Austin T. (2015). Terrorism and Counterterrorism. In E. Goode (ed.): *The Handbook of Deviance*. Hoboken, NJ: John Wiley & Sons, Inc, pp. 537–548.
- Van Ginkel, Bibi (2015). *Responding to Cyber Jihad: Towards an Effective Counter Narrative*. The Hague, Netherlands.
- Winter, Charlie (2015). *The Virtual "Caliphate": Understanding Islamic State's Propaganda Strategy*. London, UK.