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Discourse Patterns used by extremist Salafists on Facebook: Identifying potential Triggers to cognitive Biases in radicalized Content

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Understanding *how* extremist Salafists communicate, and not only *what*, is key to gaining insights into the ways they construct their social order and use psychological forces to radicalize potential sympathizers on social media. With a view to contributing to the existing body of research which mainly focuses on terrorist organizations, we analyzed accounts that advocate violent jihad without supporting (at least publicly) any terrorist group and hence might be able to reach a large and not yet radicalized audience. We constructed a critical multimodal and multidisciplinary framework of discourse patterns that may work as potential triggers to a selection of key cognitive biases and we applied it to a corpus of Facebook posts published by seven extremist Salafists. Results reveal how these posts are either based on an intense crisis construct (through negative outgroup nomination, intensification and emotion) or on simplistic solutions composed of taken-for-granted statements. Devoid of any grey zone, these posts do not seek to convince the reader; polarization is framed as a presuppositional established reality. These observations reveal that extremist Salafist communication is constructed in a way that may trigger specific cognitive biases, which are discussed in the paper.

Introduction

Social media have created new spaces of discursive power (see e.g., Bouvier & Machin, 2018; Jones et al., 2015; KhosraviNik, 2017) and the Islam-based extremists quickly understood how much they could use this channel to construct their social reality and recruit followers. Yet in November 2019, the European Union celebrated a little victory: over 26 000 items of so-called Islamic State (IS)-supporting content were referred to nine online service providers, thanks to the action coordinated by Europol's European Union Internet Referral Unit (IRU). Online platforms are responsible for establishing potential breaches of their terms of service and remove content accordingly, whether it be referred to them or identified by themselves. However, Europol's scope only concerns official propaganda posted by designated terrorist organizations (Amarasingam, 2020). Likewise, researchers so far have focused primarily on terrorist organizations like IS, especially on their official magazines (e.g., Frissen et al., 2018; Lakomy, 2019; Macdonald & Lorenzo-Dus, 2019; Mahlouly & Winter, 2018), videos (e.g., Chouliaraki & Kissas, 2018; Cottee & Cunliffe, 2020) and on their social media content (e.g., Awan, 2017; Badawy & Ferrara, 2018; Dillon et al., 2019; Weirman & Alexander, 2020). Yet, in addition to terrorist organizations, there are also private communicators, particularly on social media, who are supporters of violent jihad but who do not explicitly express their adhesion to any extremist organization (Frischlich, 2020; Renaut, 2019). Such actors communicate radicalized content in the middle of regular, non-extremist posts, following a "wolf-in-sheep's-clothes-strategy" (Rieger et al., 2013, p. 14). This kind of extremist Salafists' propaganda on social media can also play a key role in Islam-based radicalization because these extremist profiles 1) make it harder to identify and delete radical actors from social platforms (Weirman & Alexander, 2020) and 2) can be "dormant cells" (Bindner & Gluck, 2019, p. 23), who attract vulnerable people with non-violent public content and additionally develop recruitment strategies on private messages (Rieger et al., 2013). With our study, we contribute to the existing body of literature by

expanding the scope of the communication channels and practices used in Islam-based extremism.

Furthermore, while IS' frames and topics have been extensively analyzed in content analyses, studies that seek to capture the underlying discourse patterns that support these frames are still limited (Baker & Vessey, 2018; Conoscenti, 2017; Renaut, 2019). In addition, most research focuses on text-based analysis and thus neglects the powerful impact of visuals in this context (Macdonald & Lorenzo-Dus, 2018), a gap in literature we also aim to address with this paper. Understanding *how* extremist Salafists communicate through texts and images, and not only *what*, are key to gaining finely grained insights into how radicalists use psychological forces to reach potential sympathizers, though (Ingram, 2016; Smith et al., 2008; Vergani & Bliuc, 2015).

The radicalization process is based on a set of complex causal, multifaceted progressions that need to coincide to actually produce extremist outcomes (Jensen et al., 2018). Yet, confrontation with extremist propaganda material is commonly seen as potentially conducive (e.g., Frischlich, 2018; Frischlich et al., 2018). Therefore, it seems important, firstly, to critically investigate how extremists construct social realities in discourses before we can draw conclusions about its potential effects (e.g., Valkenburg & Peter, 2013). Our hypothesis is that extremists construct their social order through discourse patterns that triggers certain cognitive biases in its recipients. In this context, our research's objective was twofold: firstly, we sought to pinpoint, in a critical multimodal framework, specific discourse strategies that may work as potential triggers to a selection of key cognitive biases. Secondly, we applied this model to identify the way in which and extent to which these discursive strategies were used in Facebook posts published by profiles advocating violent jihad.

Cognitive Biases and Salafist Radicalization

With regard to the issue of radicalization, prior research has implicitly connected some biases to cognitive, emotional, and group-based mechanisms that are potential amplifiers of individual radicalization (Jensen et al., 2018). Many cognitive biases coincide with radicalization processes, especially the ones that relate to interpersonal relationships and group communication, which, in turn, impact the perceptions of outgroups (Haselton et al., 2015). Very relevant in this context is the *bias of negative outgroup perceptions* (Gilead & Liberman, 2014). Through the lens of this bias, members of outgroups are perceived as less generous and kind (Brewer, 1979), less diverse (Brauer, 2001) and more dangerous (Quillian & Pager, 2001) than members of one's own ingroup. Along the same lines, Jensen and colleagues (2018) identified that sense of community victimization as well as a fundamental shift in one's perceptions are present in pathways leading to radicalization and the acceptance or even employment of violence. Furthermore, King and Taylor (2011) indicate that group-relative deprivation and identity conflicts emerge as contributors to radicalization of Western homegrown jihadists. Extremist messages build on cues and narratives that amplify biases like the positive perception of one's ingroup and negative assessment of one's outgroup (Halverson et al., 2011; Jensen et al. 2018; Rieger et al., 2020).

Their strategy often entails targeting the insecurities of young people who might be vulnerable to radical messages (Nienierza et al., 2019). Ingram (2016) emphasizes how IS propaganda is built upon frames that manipulate their supporters' automatic and deliberative systems of thinking whereby identity, solution and crisis constructs interplay. This perfectly illustrates Van Dijk's ideological square (1998) which assumes in-group favouritism and outgroup derogation: the more the in-group's identity is valued to the detriment of the outgroup's identity, the more acute the crisis will be perceived and the more dichotomized the solutions will be.

Indeed, uncertainty levels based on the incompatibility with the outgroup, which is considered a threat, are retorted with idealized identity constructions, notably through idealizing life under the

caliphate. In line with this theory, individual uncertainty fosters identification with more radical groups (Hogg et al., 2010).

Other psychological forces, such as the quest for social status within one's collective, are strengthened through social norming (i.e. injunctions to behave a certain way) or inspirational biographies of charismatic figures, which also reinforce (historical) credibility. The interplay between crisis and solution constructs is fuelled by polarized in- and outgroup's identities.

Furthermore, drawing the image of an enemy (Halverson et al., 2011) relates to another cognitive bias that plays into the hands of recollection of, and attention to, information: the *negativity bias*. According to this bias, humans tend to respond more strongly to negative stimuli, which is showcased in higher attention and memory for negative information (e.g., Baltazar et al., 2012; Zillmann et al., 2004). This is also highlighted by a recent content analysis of Islamic extremist posts on Instagram that found violence-promoting posts to motivate the largest number of user responses compared to more moderate and less negative types of posts (Frischlich, 2020).

Lastly, participation in radical and ideologically homogeneous online communities has been shown to increase extremist attitudes, due to the agreement on a false consensus (Wojcieszak, 2010, 2011) that leads to the bias of false consensus effect.

Discourse Patterns in extremist Salafist Propaganda

While frames and topics in IS' official communication are extensively analyzed in existing research (see above), studies that seek to capture the underlying discourse patterns that support these frames are still limited (Baker & Vessey, 2018; Conoscenti, 2017). Nonetheless, while these frame analyses focus on the thematic content, they often provide some examples of key discourse patterns, especially regarding nomination and predication practices, defined in Wodak's model of critical discourse analysis that she elaborated with a view to analysing the strategies of discrimination and othering (2012). Her typology of ingroup positive vs. outgroup

negative representation is structured into five types of discursive strategies, namely referential/nomination, predication, perspectivization, argumentation, and intensification/mitigation. These five types encapsulate the major fields of research in the analysis of extremist discourse strategies.

Firstly, concerning **referential/nomination**, research on IS propaganda notably highlights how the *ummah* (i.e. the Muslim community) is constructed as an imagined homogenous community (Bazzi, 2019; Ingram, 2016). The salience of religion-based nominations of the outgroups, such as disbelievers or infidels, the negative religion-based "evil" **predication** and the predication of Jihad as "defensive" (Ingram, 2016, 2018), has been confirmed by computerized linguistic studies (Baker & Vessey, 2018; Conoscenti, 2017). Researchers also highlight how the use of nominations in Arabic can be considered as a form of legitimation (Baker & Vessey, 2018) which ideologically promotes the uncritical reproduction of religious concepts and may increase the perception of Muslim unity and brotherhood against outgroups (Bazzi, 2019).

Regarding **perspectivization**, the deictic 'us vs. them' and the inclusive 'we' are key discourse markers in the construction of homogeneously perceived in- and outgroups, which can strengthen a sense of belonging among the members of these imagined communities (Renaut, 2019).

Argumentation can be constructed through four legitimation techniques (Van Leeuwen & Wodak, 1999) : 1) authorization, through reference to authority or to implicit norms (conformity to e.g., "the majority", "normal" or "usual" practices), 2) rationalization, through rational justification of practices, which often appear to embody implicit moral values, 3) moral evaluation, through either positive or negative moral values, regarding the ingroup or the outgroup, 4) mythopoesis, i.e. the telling of negative, generalized and stereotyped stories about the outgroup. In IS' propaganda, authorization was observed through constant quotes from

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sacred texts and positive framings of inspirational figures; moral evaluation is visible in religion-based ingroup's and outgroup's nomination strategies (see above). Renaut (2019) highlights how rationalization and moral evaluation are combined with emotion when crisis frames confer the status of victim on the Muslim community by mixing *logos* and *pathos*, by relying first on a discourse of objectification of the harm which aims to present the grievance as an easily demonstrable factual reality. To our knowledge, anti-outgroup stories have not been analyzed in IS propaganda to date. By contrast, *ingroup* storytelling is considered as a key strategy in their communication (Braddock & Horgan, 2016; Creswell & Haykel, 2015, 2017). It allows to subtly *inspire* sympathizers, rather than mainly persuade them through rational argumentation (Glazzard, 2017).

Lastly, the fifth type of discourse patterns in Wodak's typology concerns **intensification and mitigation**. Baker and Vessey (2018) point out how intensifiers are significantly prevalent in their French corpus of *Inspire* magazines, which may be related to a strategy of credibility.

All the studies on IS propaganda presented above focus on the textual dimension of extremist Salafist communication practices. However, implementing extremist propaganda in the information-dense and high-choice social media environment potentially serves a limited capacity processing of the portrayed messages (Lang 2000, 2006) which makes *attentional biases* for *visual* content more prevalent (e.g., Pittmann & Reich, 2016). In this context, a multimodal approach to extremist social media content is called for. O' Halloran et al. (2016a, 2016b) specifically developed a multimodal model of extremist text-image combinations that they applied to an article published in *Dabiq*, IS' English magazine. Their model is based on Halliday's systemic functional linguistics (Halliday & Matthiessen, 2004), which is also used in other extremist discourse analyses (e.g. Forchtner & Kølvraa, 2017; Holbrook, 2013). Halliday's systemic functional approach to language is a model for thinking about general social and semiotic processes; it is not limited to linguistic signs and can be applied to visual signs as well, which explains its predominance in research on multimodality (e.g., Kress & van Leeuwen,

2006; Machin, 2007). Halliday's theory draws a distinction between experiential meaning, related to events and experiences, interpersonal meaning, referring to the social relations between the participants in an interaction, and textual meaning, which deals with the compositional organisation of the different parts of the (multimodal) text into coherent units of meaning.

Some dimensions of O'Halloran et al.'s framework are examined in several studies on IS propaganda. Images of IS' material resources are framed to boost the organisation's legitimacy (Bruscella & Bisel, 2018), while rifles can sometimes be considered as "bonding icons" (Wignell et al., 2017) that turn jihad into social bonding and camaraderie. Winkler et al. (2018) made use of similar interpersonal categories (i.e. distance and eye contact) to point out how IS' exploitation of images of death allows to strengthen the framing of IS as a powerful lethal threat to opponents, and the coalition forces as a lethal threat to civilians. In their analysis of five magazines (*Inspire, Dabiq, Jihad Recollections, Azan,* and *Gaidi Mtanni*), Watkin & Looney (20189) highlight how images of children are also used to positively frame IS, through portraying children flourishing under the caliphate, and to negatively frame the outgroup by posting pictures of children as victims of Western-backed warfare. "Superlativeness" is related to the intensification of aspects of the event (e.g., through group pictures of children). Lastly, within the umbrella category of "aesthetics," Watkin and Looney observed how the angles of the pictures (also present in O'Halloran et al.'s typology) are unexpectedly mostly straight angles, rather than low or high angles, which may be used to evoke negativity and prominence, respectively.

In conclusion, this literature review points out three gaps the present paper aims to address: 1) so far, we lack studies that connect cognitive biases with radicalization processes; 2) existing experimental examinations of biases are not based on refined discourse patterns and 3) only a few discourse analyses exist so far, which almost exclusively focus on IS propaganda. In

this context, we sought to draw parallels between Wodak's five types of discourse patterns and key cognitive biases, in a model that we present and apply in the next Sections.

Method

Materials

This research is based on N = 1720 multimodal posts (text + still visual content) written in French and published by seven extremist Salafist French-speaking Facebook profiles. These profiles were selected in collaboration with several experts, some of whom work with the French authorities. They follow these profiles on account of their previously posted extremist content and their potential influence on social media. These Facebook posts are intended for the in-group.

Analyzing "language as a social practice" (Fairclough & Wodak, 1997, p. 258) often raises context-related issues with social media data. The best alternative to deal with the online "context collapse" (Marwick & boyd, 2011) is to complement the research with interviews of users (Barton 2015, Breiter 2017). For obvious security reasons, this approach was not conceivable. Nevertheless, thanks to the exhaustiveness of our corpus, the Facebook posts were not analyzed as isolated items, but in connection to all the other posts published by each profile. For ethical and GDPR-related reasons, all analyzed profiles were public profiles. We furthermore did not record the user handles to maintain confidentiality and we re-labelled them using arbitrary identifiers (e.g., FB1, FB2). The time period covered in our analysis depends on the date of creation of the account (e.g. time period covered from 2019 if the profile was created in 2019). Within these timeframes, all the text-image posts written by these accounts which were still present on Facebook in October 2019 were collected.

In previous research (anonymized for peer-reviewing, 2020) and in line with Pohjonen (2018) who emphasizes the importance of a contextual understanding of the extremist practices under study, we analyzed the salience of posts containing ingroup vs. outgroup considerations in this corpus. This revealed major differences across the profiles: while the mean of such posts in our corpus reaches 13% (173 occurrences in total), individual frequencies range from 7% to 24% (standard deviation = 6). The other posts are religious principles without any implicit or explicit reference to any outgroup, for example.

Initials	Type of profile	Number of posts	Number of posts with ingroup vs. outgroup considerations	Time period covered
FB1	Personal profile with following option	62	15 (24%)	2019
FB2	Personal profile	126	17 (13%)	2016-2019
FB3	Personal profile	737	74 (10%)	2019
FB4	Personal profile	85	13 (15%)	2019
FB5	Page	138	12 (9%)	2017-2018
FB6	Personal profile	501	33 (7%)	2017-2019
FB7	Personal profile	71	9 (13%)	2016-2019
Total		1720	173	

Table 1. Our corpus of Salafist extremist Facebook profiles

The qualitative analysis we present in this paper was conducted on this corpus of 173 Facebook posts.

Procedure

In a first phase, we screened approximately 200 biases, based on the literature review presented above, as well as on Buster Benson's cognitive bias codex (2016). We only selected biases and mental processes that can be activated when reading individual posts; biases related to repetition

or long-term memory, for example, which imply diachronic approaches to posts in relation to each other, were not taken into consideration. In a second phase, we examined how discourse patterns may relate to these biases. The final selection of the discourse patterns and biases/mental processes are presented in the table below. In our framework, "text" refers to the texts that often accompany visual content in a separate section of Facebook posts, as well as to the texts in image macros or embedded texts.

Text	Visual content	Cognitive bias or mental process
EXPERIENTIAL MEANING		
Storytelling	N.A.	Adhesion, identification, transportation, less reactance to threats to freedom
Ingroup's positive nomination and predication	Ingroup's positive visual nomination and predication	Superiority bias, stereotyping, picture superiority effect
Outgroup's negative nomination and predication	Outgroup's negative visual nomination and predication	Stereotyping, automatic thinking (emotion, stress), negative outgroup perceptions, outgroup homogeneity effect, negativity bias, picture superiority effect
Intensification	Visual intensification	Automatic thinking, emotion, picture superiority effect, projection bias, false consensus effect, bandwagon effect
Intertextuality	N.A.	Identification, authority bias
Monoglossia and proclaim strategies	N.A.	Projection bias, false consensus effect, bandwagon effect, Occam's razor
INTERPERSONAL MEANING		
Perspectivization	Social distance, gaze and visual address to the external viewer	Quest for social status within one's collective, social bonding, authoritarianism

Table 2. Framework of multimodal critical discourse patterns and cognitive biases related to Salafist extremism, inspired by O' Halloran et al. (2016a, 2016b) and Wodak (2012)

Our model concerns experiential and interpersonal meanings. We did not take Halliday's level of textual meaning into account because our focus has been on discourse strategies that can be

related to cognitive biases; we argue that the compositional aspects that fall under textual meaning are not likely to trigger cognitive biases themselves.

Levels of Analysis for experiential Meaning

Storytelling refers to acts of narration that imply perspective or focalization and the sequential ordering of a series of events. Braddock and Horgan point out how IS storytelling is built upon psychological identification and transportation, through which the reader is 'caught up' in the narrative" and therefore reduces his/her critical evaluation of the persuasive arguments. Furthermore, storytelling can help to circumvent psychological reactance felt in response to threats to one's freedom: "If an individual perceives that someone is trying to dissuade them from supporting terrorism in a culture that values decisional independence, that individual may reassert his/her freedom by actually reinforcing his/her position." (Braddock & Horgan, 2016)

Ingroup's and outgroup's nomination and predication patterns may strengthen stereotyping. These patterns can also be visual, through metaphors or symbols that associate the ingroup and the outgroup with positive and negative evaluation, respectively. In these cases, picture superiority, wherein frames are more likely to be remembered with visual content than with words, may play a key role. Positive evaluations of the ingroup that imply some superiority compared to the outgroup may activate superiority bias, wherein a person overestimates the ingroup's qualities compared to outgroup ones. By contrast, outgroup linguistic or visual derogation can be related to crisis frames that may lead to the negativity bias and to automatic thinking (see Ingram, 2016). Nomination and predication patterns related to the outgroup as a whole may activate the outgroup homogeneity effect, wherein individuals perceive the ingroup members as diverse but the outgroup members as more similar to one another.

Intensification can take the form of up-scaling of qualities, verbal processes and modalities (e.g., very miserable, extremely often, etc.), lexicalizations (e.g., ice cold, crystal clear), repetitions (hot, hot, hot), quantifications (e.g., many, nobody), punctuation (especially exclamation marks) (Martin & White, 2005, pp. 141-151). Intensification through quantifiers may strengthen projection bias, false-consensus effect and bandwagon effect, in formulations with quantifiers such as "everybody/the majority of people/we all (think(s) that…)". In case of projection bias, the degree to which other people agree with oneself is overestimated. This bias is close to false-consensus effect, whereby one's own opinions are overestimated as the normal and typical ones. Such social norming (see Ingram, 2016 above) might strengthen a bandwagon effect, whereby one increasingly adopts views and behaviors the more they have already been adopted by others. IS exploits visual intensification through visual quantifications (Watkin & Looney, 2019).

Intertextuality can be built upon direct or indirect speech in quotes or references to sacred texts, in extremist inspirational figures' extracts, etc., which can activate identification or authority bias, whereby greater accuracy is attributed to the words of an authority figure. We have confined ourselves to explicit reported speech, leaving notions such as dialogism (Bakhtin, 2006) for our approach to monoglossia (see below).

From a linguistic point of view, "all verbal communication, whether written or spoken, is 'dialogic' in that to speak or write is always to reveal the influence of, refer to, or to take up in some way, what has been said/written before, and simultaneously to anticipate the responses of actual, potential or imagined readers/listeners." (Martin & White, 2005, p. 92). On the opposite end of dialogism/heteroglossia, **monoglossic**, taken-for-granted assertions do not refer to, or recognize, alternative points of view (Martin & White, 2005, p. 100). When there is some

implicit room for discussion, the writer may oppose alternative positions by presenting his views as highly warrantable through **"proclaim" strategies** (idem, pp. 121-132), i.e., emphases on credibility (e.g., naturally, obviously, there can be no doubt that, of course) or endorsement formulations by which external sources are construed as undeniable (e.g., this document shows, demonstrates). These patterns to state or increase credibility may also strengthen projection bias, false consensus effect and bandwagon effect, as well as Occam's razor, which refers to preference for simplicity.

Level of Analysis for interpersonal Meaning

Regarding interpersonal meaning, **perspectivization** refers in our model to patterns that involve the reader, namely personal deixis (the pronouns 'you' when it refers to the readers and the inclusive 'we'). The perspectivization patterns also include addresses to the reader (e.g. in "my brother, Muslims are dying") or through questions, commands and offers (Halliday & Matthiessen, 2004, p. 110). These commands may be explicit, through imperative or modalities (e.g., "you must") but they can also be more implicit, through "actional statements" (e.g., "Everyone needs to rise up"), which are statements in terms of grammatical structure but indirect realizations of commands in terms of their speech functionality (Martin & White, 2005, p. 178). Visual perspectivization can be expressed through close-ups, medium shots and long shots, which can construct intimate/personal, social and impersonal distance with the viewer, whereas the presence or absence of gaze and visual address creates two different types of contact, namely "demands" of some imaginary relation with the viewer, and "offers" of the represented participants as items of information, respectively (Kress & Van Leeuwen, 2001, pp. 118-149).

Results

Storytelling

Storytelling is a practice that shows great variety in the different profiles: it is a key tool for two profiles, used sparingly in three others' posts and altogether absent in the last two accounts. We observed three types of stories: external objectified stories, internal stories from daily life, and sacred stories (i.e., prophetic biography). Objectified stories comprise a storyline that is presented as factual by an extradiegetic narrator who nonetheless provides vivid selected details which are likely to create visual representations in the reader's mind. These are particularly used to tell the story of prisoners and denounce their detention conditions, but they are also sometimes construed to positively frame extremist inspirational figures' life. Stories from daily life are narrated by an intradiegetic narrator who tells and denounces his own experiences (e.g., discrimination in a real estate context). Some stories are also used for social norming purposes when they are based on examples to follow or not. Storytelling is particularly prevalent to tell stories of oppression that serve as personified illustrations of more general ideological stances expressed in the second part of these rather long posts (between 305 and 1030 words).

Outgroup Nomination and Predication

Nomination and predication are frequent discourse practices to frame the outgroup. Only a few posts contain ingroup nomination/predication. These posts list the virtuous believer's qualities or point out inspiring figures' qualities in their resistance to fight the enemy. Visually, positive ingroup visual nomination was limited to images of lions (symbols of bravery, strength and honour in Islamic art and in jihadi culture) referring to the ingroup, explicitly or implicitly, e.g.,

in Image 1 which constructs social norming in calling to "surround yourself with those who have the same mission as you".

Image 1. Reference to the lion as ingroup's positive nomination strategy

Outgroup negative nomination/predication patterns are much more prevalent and were observed in the vast majority of the posts. They are nearly exclusively based on Islam-related terms, even in geo-political posts that are not related to religious aspects: the outgroups are considered as "enemies of Islam", "shirk" (disbelief) or "kuffar" (disbelievers, infidels) left untranslated, "disbelievers" or "immoral". Nomination and predication of the ingroup's oppression is frequent, in affective terms (Micheli, 2014) like "butchery", "savagery", "scandal" or "slaughter". Very often, however, the crisis situation is framed without explicit oppression words but rather focus on elements that intensify the crisis frame (e.g. the persons involved are women and children). Posts comprising such denunciation and victimization strategies are most often composed of pictures framed as visual evidence of oppressions, through indexical long shots of scenes of oppression or through close-ups or medium shots of the victim's injuries (see image below).

Image 2. Indexical picture and caption "In Burma, more than 40 mosques burned down and hundreds of people killed only because they are Muslims. Why do France24 or BBC say nothing. Share and show this savagery to the world."

Intensification

Intensification is key in crisis-related propaganda. Likewise, we identified patterns of intensification in two thirds of the corpus. The other posts are mainly composed of image macros comprising short taken-for-granted statements or short religious principles like "Nationalism is scum" (mostly extracted from sacred texts).

The use of up-scaling patterns and quantifiers in the context of intensification appears as a key practice. Both are observed in a quarter of the posts, and almost always in crisis-related posts against the outgroup (e.g., "If you are sincere and on the path of truth, you will never find your place in this society.").

Intensification was sometimes built upon lexicalizations, especially through metaphors, in order to denounce oppression (e.g., "Rivers of blood flow abundantly from the veins of our brothers and sisters in the Muslim world"), to express denoted emotional hurt (e.g., "An image

that hurts more than all the bombings on earth") or hope (e.g., "A day will come when they will be weeping a torrent of tears"). Visual intensification was frequent, particularly in close-ups or medium shots of the victim's injuries (see example below).

Image 3. Medium shot of an injured child. Text: "Sweets for your children and bombs for us. Thank you, France."

Valuing the ingroup through intensification is rather uncommon: a very limited number of lexicalizations were observed to frame the ingroup. For example, al-Qaeda member al-Awlaki's quote below can be interpreted as a tribute to the brave fighters, notably through metaphorical lexicalizations: "There are people who had to face the hardships and who were as firm as mountains, even though they had little science, and others who memorized books but who failed in the hardships." (see Image 2). Whereas this quote could be applied to a multitude of contexts, the visual elements as well as the quote's author make the context *implicitly* connected to the Jihadist Movements.

Il y a des gens qui ont dû faire face aux épreuves et qui étaient fermes comme des montagnes, et cela même si ils avaient peu de science, et d'autres qui ont mémorisé des livres, mais qui ont échoué lors des épreuves.

{ Shaykh Anwâr Al'Awlaki رحمه الله }

Image 4. Anwâr Al Awlaki's quote in our corpus

Lexical repetition is nearly not used in our sample (one occurrence). By contrast, enumeration is a rather common practice, observed in all profiles' posts, which allow to create intensification through the effect of a virtually infinite sequence. They are enumerations either used to denounce the outgroup's actions (e.g. "Thousands of people have been killed, raped, beaten... after losing land, homes and loved ones") or to strengthen religious norming (e.g., "If you look at them, listen to them and analyze them, you will realize that they represent all that the Prophet repressed, forbade and fought against."). Two positive framings of inspirational figures also draw on enumerations (i.e. of their qualities).

Intertextuality

Explicit references to existing texts were observed in all profiles, except for FB2. This type of discourse strategy is very common and is observed in one third up to one quarter of the posts. Most references are religious and consist of sura's, ahadith or imams' texts, usually devoid of comments. Most of them warn against sin, disbelievers and their ways of life (democratic voting

in particular). Strictly political quotes are less frequent than religion-based ones. In the quote below, terrorist Emir Khattab calls for insurrection: "Arab leaders are slaves to the West. […] The time has come to free ourselves from these slaves." In such quotes, the use of vague rhetoric of the fight leaves the door open for interpretations of fight as a violent one, but without any explicit marker of violence. In the same vein, some famous quotes can be decontextualized and receive a specific implicit meaning: two posts are composed of the picture of a lion and Henri Laborit's quote "when faced with hardship, a man has three choices. Do nothing, run away or fight!"

Image 5. Decontextualized use of Laborit's quote to implicitly praise violence

Such appropriations of famous quotes transform them into decontextualized empty shells that are ready for hosting new implicit meanings according to the contexts in which they are used. Interestingly, explicit apology for violent jihad was only observed in religious quotes: in a list of the believers' virtues, in a sura stating that "disbelief is worse than murder" (coupled with the image of a hand holding a ballot paper, both covered in blood), as well as in an extract from ad-Durrar as-Saniyyah, a collection of books about the Sunna: "Hatred towards these polytheists, their criticism, takfir, disavowal, is the foundation of Islam and the greatest means of access to

the Lord of the Worlds. Moreover, the life of a Muslim will have no pleasure except with the jihad against them, against their opposition and their takfir, and with approaching Allah with that, hoping for His reward."

These are the only three occurrences which praise violent jihad explicitly. This reveals a low salience (not surprisingly, given Facebook's content reviewing practices) and a type of communication strategy that is based on religious legitimacy through sacred texts.

Monoglossia and proclaim Strategies

Monoglossic posts are prevalent in our corpus. This can be explained by the frequency of posts built upon religious principles (i.e., a quarter of the corpus), which are presented as presuppositional statements. Posts referring to oppression and discrimination against the ummah (i.e. the Muslim community, in half of our corpus) are almost exclusively presented in a monoglossic way; only four occurrences of proclaim strategies were identified, with formulations like "evidently", which emphasizes the warrantability of information. The vast majority of these posts seek to denounce the drama of polarized situations; they do not seek to convince the readers by limiting the scope of dialogistic alternatives.

Perspectivization

The corpus contains a rich variety of perspectivization patterns, to engage the reader explicitly (imperatives, 'you' and 'we' pronouns) or more implicitly (gaze addresses, actional statements). The two most prevalent patterns are the use of the imperative and the 'we' pronoun, both observed in one quarter of the corpus. These imperatives call the reader to wake up, to react against the atrocities, to boycott democratic elections or to fear Allah. The inclusive 'we' is always Islam-based and mostly explicitly refers to the ummah (e.g., "our brothers," "our

prophet," "tawheed [the oneness of God] is our pride"). Only a limited number of posts oppose the ingroup and the outgroup through us-them formulations.

Three types of addressing the reader with the 'you' pronoun (used in one fifth of the corpus) were identified. The two major ones are ideological and consist of warnings, often built upon extracts of sacred texts (e.g., "If you don't want to be a lion raising your voice for your religion, then don't be a dog barking at believers."), and of questions and calls to react that confront the readers' passivity with the tragedy of the denounced situations. The third type is only phatic and allows to create a relationship with the reader, with formulations such as "at the time we write to you."

More implicitly, most religious principles engage the reader in actional statements: in "Halloween is sin", the reader is informed of the religious prohibition as well as indirectly requested not to celebrate it, for example.

Visual address to the reader can increase the sense of involvement. Surprisingly, this implicit engagement strategy is rather uncommon in our corpus: Two thirds of the corpus contain figurative content; the other third of posts is composed of words on a background. Most posts with figurative content contain pictures including faces, but only one quarter of them with visual address. Most pictures, without gaze address, are pictures of oppression. Lastly, several posts comprise an inspirational figure's gaze address (extremist leaders or prisoners) as well as a text which glorifies these figures and, in the second case, denounces the prisoners' oppression.

Discussion

Social media practices are shaped by "industrial" and "socio-cultural" dynamics (KhosraviNik, 2017). As far as the industrial leg is concerned, Facebook's communicative affordances play a key role in shaping extremist communication: short messages on social media favour extremist simplicity; group polarization may be strengthened by increased ingroup identity (Khosravinik &

Esposito, 2018) through echo chambers and processes of "de-individuation", i.e. "a subjugation of the individual to the group and a concomitant reduction in self-focus" (Thurlow et al. 2009: 63). Extremist ideologies are also particularly built on emotion, prevalent on social media (e.g., Papacharissi, 2015). From a socio-cultural point of view, Salafi Islam-based law and social order can appear as "an alternative approach to the pursuit of justice and the good life, and in this context, Salafism's capacity to empower and change identities can be seen as its most important social effect" (Sedgwick, 2012, p. 58). Increasingly popular in reaction against the failures of contemporary states and societies (Sedgwick, 2012) and in times of ubiquitous identity crises, its simple, polarized and reassuring social order particularly appeals to vulnerable young people (Meijer, 2009).

As our results reveal, the articulation of these industrial and socio-cultural dynamics materializes in discourse patterns that are particularly conducive to triggering specific cognitive biases in its recipients. Interestingly, while IS' official and professionalized communication contrasts with the amateur and user-generated posts in our corpus, they both particularly build on crisis frames (Ingram, 2016), fuelled by negative outgroup nomination : in many posts, the locutors express their emotions by eliciting the emotional aspects of a specific crisis situation. This is strengthened through intensification patterns, in a logic of "competitive victimhood" that engenders feelings of "exclusive victim consciousness" (Vollhardt, 2013) by which the ingroup's sufferings are the highest ones (Renaut, 2019). Baker and Vessey (2018) also observed the high frequency of emphasizers in their French-speaking corpus of IS magazines. Whereas they hold the hypothesis that it might be a strategy to increase credibility, we argue that it particularly strengthens supported emotion, which might fuel the perception of a crisis and lead to emotional contagion and automatic thinking. Visual scenes of oppression are mostly framed as "acts of non-intervention" (Sontag, 1977) and thereby as visual evidence in this intensified crisis strategy. Besides, crisis-related metaphors and storytelling are rather common intense discourse patterns, as well as enumerations which creates an effect of a virtually infinite sequence.

Intense crisis-related posts contrast with bare presuppositional solution-related statements, which often take the form of short religious principles. This prevalence of monoglossia is in line with Smith et al.'s findings regarding the low levels of complexity in Al Qaeda's communication (2018). Furthermore, up-scaling adverbs like 'never' or 'always' in framing the outgroup's actions particularly emphasize the unsolvable incompatibility between the ingroup and the outgroup, which prevents any grey zone. This strategy fuels identity conflicts that appear to contribute to the radicalization of Western homegrown jihadists (King & Taylor, 2011).

The very low salience of proclaim patterns also reveal how the purpose of the vast majority of these posts is not to convince, to win the debate of ideas between two opposing points of view; their function is to denounce situations that are framed as presuppositional and taken-for-granted, with much recourse to intensification patterns.

Lastly, with the inclusive pronouns 'we' and 'our', these profiles, like IS, construct the ummah as an imagined homogenous ingroup community (Bazzi, 2019; Ingram, 2016). This and the frequent address to the reader with the 'you' pronoun may also respond to the reader's quest for social status within one's collective (Ingram, 2016). The high frequency of addresses to the reader with imperatives emphasizes how many of these posts are constructed as social norming. Is it worth noting that most of them are not empowering but are rather built on *fear*: the fear of displeasing Allah.

Two limitations to our work need to be considered. Firstly, our dataset was limited to the Facebook posts written by seven extremist profiles. For this reason, we make no claims about the statistical representativeness of our small sample (Potter & Wetherell, 1994). Instead, we opted for a qualitative analysis of these profiles' multimodal discourse practices with the aim of conducting an in-depth and nuanced analysis which cannot be provided by quantitative content analysis (Hopf, 2004). Secondly, like all researchers working with social media data, we do not

know whether we have analyzed a truly exhaustive corpus, or whether it has undergone prior removal by Facebook. When we contacted the social platform with general questions about these policies, we were kindly invited to read – again – the fairly broad community standards available online. We understand Facebook's concern when they argue that "we are careful not to reveal too much about our enforcement techniques because of adversarial shifts by terrorists" (Bickert, 2018). We regret that this choice in favour of discretion also applies to researchers. Of course, moderation is not an easy task. Yet, with its 2.7 billion users in the second quarter of 2020, Facebook plays an increasingly significant role as cultural intermediary, establishing the content and character of public discourse (Caplan, 2018; Gillespie, 2012; Klonick, 2018). This is a sufficiently democratic reason to demand greater transparency from Facebook when it comes to the ways content is assessed or moderators make their decisions to remove content or not (Caplan, 2018; Carlson & Rousselle, 2020; Gillespie, 2018; Reeve, 2019).

Conclusion

The radicalization process is based on a set of complex causal, multifaceted progressions that need to coincide to actually produce extremist outcomes (Jensen et al., 2018; Smith et al., 2008). Some cognitive biases coincide with radicalization processes, but are only one type of potential factors, the impact of which varies from one individual to another. The prevalent discourse patterns cannot be correlated to triggered biases; they need to be carefully considered as *potential* triggering factors to these cognitive biases, at the most. Nevertheless, we are confident that the interdisciplinary methodology presented here allows for critical insights into the types of discourse patterns in use in extremist Salafist propaganda as well as their potential roles in triggering some biases, which might be empirically tested in psychological experiments.

To conclude, we wish to call to mind the keen pursuit of critical research to "produce and convey critical knowledge that enables human beings to emancipate themselves from forms of

domination through self-reflection. So they [i.e. critical theories] are aimed at producing 'enlightenment and emancipation'" (Wodak & Meyer, 2009, p. 7). In offering insights that stimulate such self-reflection, enlightenment and emancipation from one's biases by identifying their potential discursive triggers in radicalized online content, our paper seeks to help any actor involved in countering Salafist extremism, and especially those who work with vulnerable people. In doing so, it *literally* meets the reflective and empowering ambitions of critical research.

Declaration of interest Statement

No potential conflict of interest was reported by the authors.

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Data Availability Statement

This research is based on a corpus of Facebook posts, some of which promote violent jihad and can be considered as security-sensitive materials. The availability of such datasets in public repositories is not recommended but the corresponding author will be happy to share this dataset with researchers upon request.

References

- Amarasingam, A. (2020). A view from the CT Foxhole: An interview with an official at Europol's EU Internet Referral Unit. *CTC Sentinel. Combating Terrorism Center at West Point* , *13* (2), 15–19. [Google Scholar]
- Awan, I. (2017). Cyber-extremism: Isis and the power of social media. *Society* , *54* (2), 138–149. https://doi.org/10.1007/s12115-017-0114-0 [Crossref], [Web of Science ®], [Google Scholar]

- Badawy, A. , & Ferrara, E. (2018). The rise of Jihadist propaganda on social networks. *Journal of Computational Social Science* , *1* (2), 453–470. https://doi.org/10.1007/s42001-018-0015-z [Crossref], [Google Scholar]
- Baker, P. , & Vessey, R. (2018). A corpus-driven comparison of English and French Islamist extremist texts. *International Journal of Corpus Linguistics* , *23* (3), 255–278. https://doi.org/10.1075/ijcl.17108.bak [Crossref], [Web of Science ®], [Google Scholar]
- Bakhtin, M. M. (2006). *The dialogic imagination: Four essays* (16th print). University of Texas press. [Google Scholar]
- Baltazar, N. C. , Shutts, K. , & Kinzler, K. D. (2012). Children show heightened memory for threatening social actions. *Journal of Experimental Child Psychology* , *112* (1), 102–110. https://doi.org/10.1016/j.jecp.2011.11.003 [Crossref], [PubMed], [Web of Science ®], [Google Scholar]
- Barton, D. (2015). Tagging on flickr as a social pratice. In R. Jones, A. Chik, & C. A. Hafner (Eds.), Discourse and digital practices: Doing discourse analysis in the digital age (pp. 48–65). Routledge. [Google Scholar]
- Bazzi, S. (2019). The non-translation strategy in translating ISIS radical discourse. *Journal of Language Aggression and Conflict* , *7* (2), 133–155. https://doi.org/10.1075/jlac.00022.baz [Crossref], [Web of Science ®], [Google Scholar]
- Benson, B. (2016). *Cognitive bias cheat sheet*. https://medium.com/better-humans/cognitive-bias-cheat-sheet-55a472476b18 [Crossref], [Google Scholar]
- Bickert, M. (2018). *Content moderation: Facebook*. https://santaclarauniversity.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=6e2bf22d-52cd-4e3f-9324-a8810187bad7 [Google Scholar]
- Bindner, L. , & Gluck, R. (2019). Jihadist extremism. In B. Ganesh & J. Bright (Eds.), *Extreme digital speech: Context, responses and solutions* (pp. 19–26). VOX-Pol Network of Excellence. [Google Scholar]
- Bouvier, G. , & Machin, D. (2018). Critical discourse analysis and the challenges and opportunities of social media. *Review of Communication* , *18* (3), 178–192. https://doi.org/10.1080/15358593.2018.1479881 [Taylor & Francis Online], [Google Scholar]
- Braddock, K. , & Horgan, J. (2016). Towards a guide for constructing and disseminating counternarratives to reduce support for terrorism. *Studies in Conflict & Terrorism* , *39* (5), 381–404. https://doi.org/10.1080/1057610X.2015.1116277 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- Brauer, M. (2001). Intergroup perception in the social context: The effects of social status and group membership on perceived out-group homogeneity and ethnocentrism. *Journal of Experimental Social Psychology* , *37* (1), 15–31. https://doi.org/10.1006/jesp.2000.1432 [Crossref], [Web of Science ®], [Google Scholar]
- Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin* , *86* (2), 307–324. https://doi.org/10.1037/0033-2909.86.2.307 [Crossref], [Web of Science ®], [Google Scholar]
- Bruscella, J. S. , & Bisel, R. S. (2018). Four Flows theory and materiality: ISIL's use of material resources in its communicative constitution. *Communication Monographs* , *85* (3), 331–356. https://doi.org/10.1080/03637751.2017.1420907 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- Caplan, R. (2018). *Content or context moderation? Artisanal, community-reliant, and industrial approaches* . Data & Society. https://datasociety.net/wp-content/uploads/2018/11/DS_Content_or_Context_Moderation.pdf [Google Scholar]
- Carlson, C. R. , & Rousselle, H. (2020). Report and repeat: Investigating Facebook's hate speech removal process. *First Monday*. https://doi.org/10.5210/fm.v25i2.10288 [Google Scholar]
- Chouliaraki, L. , & Kissas, A. (2018). The communication of horrorism: A typology of ISIS online death videos. *Critical Studies in Media Communication* , *35* (1), 24–39. https://doi.org/10.1080/15295036.2017.1393096 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]

- Conoscenti, M. (2017). ISIS' Dabiq communicative strategies, NATO and Europe. Who is learning from whom? In M.Ceretta, & B.Curli (Eds.), *Discourses and counter-discourses on Europe, from the enlightenment to the EU* (pp. 238–257). Taylor & Francis. https://iris.unito.it/handle/2318/1574888#.XusZ6ufgpPY [Google Scholar]
- Cottee, S. , & Cunliffe, J. (2020). Watching ISIS: How young adults engage with official English-language ISIS videos. *Studies in Conflict & Terrorism* , *43* (30), 183–207. https://doi.org/10.1080/1057610X.2018.1444955 [Taylor & Francis Online], [Google Scholar]
- Creswell, R. , & Haykel, B. (2015, June 1). Battle lines. Want to understand the jihadis? Read their poetry. *The New Yorker*. https://www.newyorker.com/magazine/2015/06/08/battle-lines-jihad-creswell-and-haykel [Google Scholar]
- Creswell, R. , & Haykel, B. (2017). Poetry in jihadi culture. In T.Hegghammer (Ed.), *Jihadi culture: The art and social practices of militant islamists* (pp. 22–41). Cambridge University Press. https://doi.org/10.1017/9781139086141 [Crossref], [Google Scholar]
- Dillon, L. , Neo, L. S. , & Freilich, J. D. (2020). A comparison of ISIS foreign fighters and supporters social media posts: An exploratory mixed-method content analysis. *Behavioral Sciences of Terrorism and Political Aggression* , *12* (4), 268–291. https://doi.org/10.1080/19434472.2019.1690544 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- Fairclough, N. , & Wodak, R. (1997). Critical discourse analysis. In T.van Dijk (Ed.), *Discourse as social interaction* (pp. 258–284). SAGE. [Google Scholar]
- Forchtner, B. , & Kølvraa, C. (2017). Extreme right images of radical authenticity: Multimodal aesthetics of history, nature, and gender roles in social media. *European Journal of Cultural and Political Sociology* , *4* (3), 252–281. https://doi.org/10.1080/23254823.2017.1322910 [Taylor & Francis Online], [Google Scholar]
- Frischlich, L. (2020). #Dark inspiration: Eudaimonic entertainment in extremist Instagram posts. *New Media & Society* , Article 1461444819899625. https://doi.org/10.1177/1461444819899625 [Crossref], [Web of Science ®], [Google Scholar]
- Frischlich, L. , Rieger, D. , Morten, A. , & Bente, G. (2018). The power of a good story: Narrative persuasion in extremist propaganda and videos against violent extremism. *International Journal of Conflict and Violence* , *12* , 1–16. https://doi.org/10.4119/UNIBI/ijcv.644 [Web of Science ®], [Google Scholar]
- Frissen, T. , Toguslu, E. , Van Ostaeyen, P. , & d'Haenens, L. (2018). Capitalizing on the Koran to fuel online violent radicalization: A taxonomy of Koranic references in ISIS's Dabiq. *Telematics and Informatics* , *35* (2), 491–503. https://doi.org/10.1016/j.tele.2018.01.008 [Crossref], [Web of Science ®], [Google Scholar]
- Gilead, M. , & Liberman, N. (2014). We take care of our own: Caregiving salience increases out-group bias in response to out-group threat. *Psychological Science* , *25* (7), 1380–1387. https://doi.org/10.1177/0956797614531439 [Crossref], [PubMed], [Web of Science ®], [Google Scholar]
- Gillespie, T. (2012, February 22). The dirty job of keeping Facebook clean. *Culture Digitally*. http://culturedigitally.org/2012/02/the-dirty-job-of-keeping-facebook-clean/ [Google Scholar]
- Gillespie, T. (2018). *Custodians of the internet: Platforms, content moderation, and the hidden decisions that shape social media* . Yale University Press. [Google Scholar]
- Glazzard, A. (2017). Losing the plot: Narrative, counter-narrative and violent extremism. *The International Centre for Counter-Terrorism – The Hague* . https://doi.org/ 10.19165/2017.1.08 [Crossref], [Google Scholar]
- Halliday, M. , & Matthiessen, C. (2004). *An Introduction to functional Grammar* (3rd ed.). Routledge. [Google Scholar]
- Halverson, J. , Corman, S. , & Goodall, H. L. (2011). *Master narratives of islamist extremism* . Palgrave MacMillan. [Crossref], [Google Scholar]
- Haselton, M. G. , Nettle, D. , & Murray, D. R. (2015). The evolution of cognitive bias. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (pp. 968–987). Wiley. https://doi.org/10.1002/9781119125563.evpsych241 [Google Scholar]

- Hogg, M. A. (2014). From uncertainty to extremism: Social categorization and identity processes. *Current Directions in Psychological Science* , *23* (5), 338–342. https://doi.org/10.1177/0963721414540168 [Crossref], [Web of Science ®], [Google Scholar]
- Holbrook, D. (2013). Far right and Islamist extremist discourses: Shifting patterns of enmity. In M.Taylor, P. M.Currie, & D.Holbrook (Eds.), *Extreme right wing political violence and terrorism* (pp. 215–237). Bloomsbury Academic. [Google Scholar]
- Hopf, T. (2004). Discourse and content analysis: Some fundamental incompatibilities. *Qualitative Methods* , *2* (1), 31–33. https://doi.org/10.5281/zenodo.998660 [Google Scholar]
- Ingram, H. J. (2016). Deciphering the Siren call of militant islamist propaganda: Meaning, credibility & behavioural change. *The International Centre for Counter-Terrorism – The Hague* , *7* (9). https://doi.org/10.19165/2016.1.12 [Google Scholar]
- Ingram, H. J. (2018). Islamic state's English-language magazines, 2014-2017: Trends & implications for CT-CVE strategic Communications. *The International Centre for Counter-Terrorism – The Hague* , *8* (15). https://doi.org/10.19165/2018.1.03 [Google Scholar]
- Jensen, M. A. , Seate, A. A. , & James, P. A. (2020). Radicalization to violence: A pathway approach to studying extremism. *Terrorism and Political Violence* , *32* (5), 1067–1090. https://doi.org/10.1080/09546553.2018.1442330 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- Jones, R. H. , Chik, A. , & Hafner, C. A. (Eds.). (2015). *Discourse and digital practices: Doing discourse analysis in the digital age* . Routledge. https://www.routledge.com/Discourse-and-Digital-Practices-Doing-discourse-analysis-in-the-digital/Jones-Chik-Hafner/p/book/9781138022331 [Crossref], [Google Scholar]
- KhosraviNik, M. (2017). Social media critical discourse studies (SM-CDS). In J.Flowerdew, & J.Richardson (Eds.), *Handbook of critical discourse analysis* (pp. 582–596). Routledge. [Crossref], [Google Scholar]
- Khosravinik, M. , & Esposito, E. (2018). Online hate, digital discourse and critique: Exploring digitally-mediated discursive practices of gender-based hostility. *Lodz Papers in Pragmatics* , *14* (1), 45–68. https://doi.org/10.1515/lpp-2018-0003 [Crossref], [Google Scholar]
- King, M. , & Taylor, D. M. (2011). The radicalization of homegrown jihadists: A review of theoretical models and social psychological evidence. *Terrorism and Political Violence* , *23* (4), 602–622. https://doi.org/10.1080/09546553.2011.587064 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- Klonick, K. (2018). The new governors: The people, rules, and processes governing online speech. *Harvard Law Review* , *131* , 1598–1670. [Web of Science ®], [Google Scholar]
- Kress, G. , & van Leeuwen, T. (2006). *Reading images: The grammar of visual design* (2nd ed.). Routledge. [Crossref], [Google Scholar]
- Lakomy, M. (2019). Recruitment and incitement to violence in the Islamic state's online propaganda: Comparative analysis of Dabiq and Rumiyah. *Studies in Conflict & Terrorism* . https://www.tandfonline.com/doi/full/10.1080/1057610X.2019.1568008 [Taylor & Francis Online], [Google Scholar]
- Lang, A. (2000). The limited capacity model of mediated message processing. *Journal of Communication* , *50* (1), 46–70. https://doi.org/10.1111/j.1460-2466.2000.tb02833.x [Crossref], [Web of Science ®], [Google Scholar]
- Lang, A. (2006). Using the limited capacity model of motivated mediated message processing to design effective cancer communication messages. *Journal of Communication* , *56* (Suppl. 1), S57–S80. https://doi.org/10.1111/j.1460-2466.2006.00283.x [Crossref], [Web of Science ®], [Google Scholar]
- Macdonald, S. , & Lorenzo-Dus, N. (2019). Visual jihad: Constructing the "good Muslim" in online Jihadist magazines. *Studies in Conflict & Terrorism* . https://doi.org/10.1080/1057610X.2018.1559508 [Taylor & Francis Online], [Google Scholar]
- Machin, D. (2007). *Introduction to multimodal analysis* . Bloomsbury Academic. [Google Scholar]
- Mahlouly, D. , & Winter, C. (2018). *A tale of two caliphates: Comparing the islamic state's internal and external Messaging Priorities* . VOX Pol Network of Excellence.

https://icsr.info/2018/07/23/a-tale-of-two-caliphates-comparing-the-islamic-states-internal-and-external-messaging-priorities/ [Google Scholar]

- Martin, J. R. , & White, P. R. R. (2005). *The language of evaluation. Appraisal in English* . Palgrave Macmillan. [Crossref], [Google Scholar]
- Marwick, A. E. , & boyd, D. (2011). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society* , *13* (1), 114–133. https://doi.org/10.1177/1461444810365313 [Crossref], [Web of Science ®], [Google Scholar]
- Meijer, R. (Ed.). (2009). *Global Salafism: Islam's New religious movement* . Hurst. [Google Scholar]
- Micheli, R. (2014). *Les émotions dans les discours. Modèle d'analyse, perspectives empiriques* . De Boeck. [Crossref], [Google Scholar]
- Nienierza, A. , Reinemann, C. , Fawzi, N. , Riesmeyer, C. , & Neumann, K. (2019). Too dark to see? Explaining adolescents' contact with online extremism and their ability to recognize it. *Information, Communication & Society* , *0* (0), 1–18. https://doi.org/10.1080/1369118X.2019.1697339 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- O'Halloran, K. L. , Tan, S. , & Wignell, P. (2016). Intersemiotic translation as resemiotisation: A multimodal perspective. *Signata* , *7* , 199–229. https://doi.org/10.4000/signata.1223 [Crossref], [Google Scholar]
- O'Halloran, K. L. , Tan, S. , Wignell, P. , Bateman, J. A. , Pham, D.-S. , Grossman, M. , & Moere, A. V. (2016). Interpreting text and image relations in violent extremist discourse: A mixed methods approach for big data analytics. *Terrorism and Political Violence* , *31* (3), 454–474. https://doi.org/10.1080/09546553.2016.1233871 [Taylor & Francis Online], [Google Scholar]
- Papacharissi, Z. (2015). *Affective publics: Sentiment, technology, and politics* . Oxford University Press. [Google Scholar]
- Pittman, M. , & Reich, B. (2016). Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words. *Computers in Human Behavior* , *62* , 155–167. https://doi.org/10.1016/j.chb.2016.03.084 [Crossref], [Web of Science ®], [Google Scholar]
- Pohjonen, M. (2018). *Horizons of hate. A comparative approach to social media hate speech* . VOX-Pol Network of Excellence. https://www.voxpol.eu/new-vox-pol-report-horizons-of-hate-a-comparati ve-approach-to-social-media-hate-speech/ [Google Scholar]
- Potter, J. , & Wetherell, M. (1994). Analyzing discourse. In B.Burgess, & A.Bryman (Eds.), *Analyzing qualitative data* (pp. 47–66). Routledge. [Crossref], [Google Scholar]
- Quillian, L. , & Pager, D. (2001). Black neighbors, higher crime? The role of racial stereotypes in evaluations of neighborhood crime. *American Journal of Sociology* , *107* (3), 717–767. https://doi.org/10.1086/338938 [Crossref], [Web of Science ®], [Google Scholar]
- Reeve, Z. (2019). Human assessment and crowdsourced flagging. In B.Ganesh, & J.Bright (Eds.), *Extreme digital speech: Context, responses and solutions* (pp. 67–79). VOX-Pol Network of Excellence. [Google Scholar]
- Renaut, L. (2019). Radicalisation djihadiste et discours victimaire sur les réseaux sociaux: De la victime au bourreau. *Argumentation et Analyse du Discours* , *23* , Article 23. https://doi.org/10.4000/aad.3870 [Google Scholar]
- Rieger, D. , Frischlich, L. , & Bente, G. (2013). *Propaganda 2.0: Psychological effects of right-wing and islamic extremist internet videos* (Vol. 44). Luchterhand. [Google Scholar]
- Rieger, D. , Frischlich, L. , & Bente, G. (2019). Dealing with the dark side: The effects of right-wing extremist and Islamist extremist propaganda from a social identity perspective. *Media, War & Conflict* , *13* (3), 280–299. https://doi.org/10.1177/1750635219829165 [Crossref], [Web of Science ®], [Google Scholar]
- Sedgwick, M. (2012). Salafism, the social, and the global resurgence of religion. *Comparative Islamic Studies* , *8* (1–2), 57–69. https://doi.org/10.1558/cis.v8il-2.57 [Crossref], [Google Scholar]
- Smith, A. G. , Suedfeld, P. , Conway, L. G. , & Winter, D. G. (2008). The language of violence: Distinguishing terrorist from nonterrorist groups by thematic content analysis. *Dynamics of*

Asymmetric Conflict , *1* (2), 142–163. https://doi.org/10.1080/17467580802590449 [Taylor & Francis Online], [Google Scholar]

- Sontag, S. (1977). *On photography* . Delta Books. [Google Scholar]
- Thurlow, C. , Lengel, L. , & Tomic, A. (2004). *Computer mediated communication* . Sage. [Google Scholar]
- Valkenburg, P. M. , & Peter, J. (2013). The differential susceptibility to media effects model. *Journal of Communication* , *63* (2), 221–243. https://doi.org/10.1111/jcom.12024 [Crossref], [Web of Science ®], [Google Scholar]
- van Dijk, T. (1998). *Ideology. A multidisciplinary approach* . SAGE Publications. [Google Scholar]
- Van Leeuwen, T. , & Wodak, R. (1999). Legitimizing immigration control: A discourse-historical analysis. *Discourse Studies* , *1* (1), 83–118. https://doi.org/10.1177/1461445699001001005 [Crossref], [Google Scholar]
- Vergani, M. , & Bliuc, A.-M. (2015). The evolution of the ISIS' language: A quantitative analysis of the language of the first year of Dabiq magazine. *Sicurezza, Terrorismo e Societa* , *2* , 7–20. [Google Scholar]
- Vollhardt, J. R. (2013). "Crime against humanity" or "crime against jews"? Acknowledgment in construals of the holocaust and its importance for intergroup relations. *Journal of Social Issues* , *69* (1), 144–161. https://doi.org/10.1111/josi.12008 [Crossref], [Web of Science ®], [Google Scholar]
- Watkin, A.-L. , & Looney, S. (2019). "The lions of tomorrow": A news value analysis of child images in Jihadi magazines. *Studies in Conflict & Terrorism* , *42* (1–2), 120–140. https://doi.org/10.1080/1057610X.2018.1513696 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- Weirman, S. , & Alexander, A. (2020). Hyperlinked sympathizers: URLs and the Islamic State. *Studies in Conflict & Terrorism* , *43* (3), 239–257. https://doi.org/10.1080/1057610X.2018.1457204 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- Wignell, P. , Tan, S. , & O'Halloran, K. L. (2017). Violent extremism and iconisation: Commanding good and forbidding evil? *Critical Discourse Studies* , *14* (1), 1–22. https://doi.org/10.1080/17405904.2016.1250652 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- Winkler, C. , El Damanhoury, K. , Dicker, A. , & Lemieux, A. F. (2019). Images of death and dying in ISIS media: A comparison of English and Arabic print publications. *Media, War & Conflict* , *12* (3), 248–262. https://doi.org/10.1177/1750635217746200 [Crossref], [Web of Science ®], [Google Scholar]
- Wodak, R. (2012). Discrimination via discourse. *Zeitgeschichte* , *39* (6), 403–421. [Web of Science ®], [Google Scholar]
- Wodak, R. & Meyer, M. (Eds.). (2009). *Methods of critical discourse analysis* (2nd ed.). SAGE [Google Scholar]
- Wojcieszak, M. (2010). 'Don't talk to me': Effects of ideologically homogeneous online groups and politically dissimilar offline ties on extremism. *New Media & Society* , *12* (4), 637–655. https://doi.org/10.1177/1461444809342775 [Crossref], [Web of Science ®], [Google Scholar]
- Wojcieszak, M. E. (2011). Computer-mediated false consensus: Radical online groups, social networks and news media. *Mass Communication and Society* , *14* (4), 527–546. https://doi.org/10.1080/15205436.2010.513795 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]
- Zillmann, D. , Chen, L. , Knobloch, S. , & Callison, C. (2004). Effects of lead framing on selective exposure to internet news reports. *Communication Research* , *31* (1), 58–81. https://doi.org/10.1177/0093650203260201 [Crossref], [Web of Science ®], [Google Scholar]