Does social media lead vulnerable individuals to resort to violence? Many people believe it does. And they respond with online censorship, surveillance and counter-speech. But what do we really know about the Internet as a cause, and what do we know about the impact of these reactions?

All over the world, governments and Internet companies are making decisions on the basis of assumptions about the causes and remedies to violent attacks. The challenge is for analysis and responses to be firmly grounded. The need is for policy constructed on the basis of facts and evidence, and not founded on hunches or driven by panic and fearmongering.

It is in this context that UNESCO has commissioned the study titled Youth and Violent Extremism on Social Media. This work provides a global mapping of research (mainly during 2012-2016) into the assumed roles played by social media in violent radicalization processes, especially as they affect youth and women.
YOUTH AND VIOLENT EXTREMISM ON SOCIAL MEDIA: MAPPING THE RESEARCH

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The phenomenon often referred to as “incitement to radicalization towards violent extremism” (or “violent radicalization”) has grown in recent years. This is mainly in relation to the Internet in general and social media in particular. This is despite it being immediately evident that other offline factors, including face-to-face communications, peer pressure and false information constitute more powerful forces, and are ignored at the peril of limiting our rights to freedom of expression if we focus only on the Internet.

In parallel to the increased attention to online “incitement to extremism and violence”, attempts to prevent this phenomenon have created challenges for freedom of expression. These range from indiscriminate blocking, censorship over-reach (affecting both journalists and bloggers), and privacy intrusions – right through to the suppression or instrumentalisation of media at the expense of independent credibility).

It is timely therefore for us to recall key international human rights standards to serve as a benchmark for approaching violent extremism.

First, we can refer to the International Covenant of Civil and Political Rights (ICCPR), which foregrounds the protection of freedom of expression in Article 19. The Covenant also recognizes that certain exceptional speech falls outside of free expression. Article 20 calls for prohibitions on “propaganda for war”, and on “any advocacy of national, racial or religious hatred that constitutes incitement to discrimination, hostility or violence”. In Article 19 of the ICCPR, certain expression may be limited by law – if necessary – for the purpose of protection of personal reputation, national security, public order, public health or public morals. All these provisions have a bearing on expression in relation to violent radicalization. General Comment No. 34 of the UN Human Rights Committee emphasizes that Article 20, on compulsory restrictions, has to be interpreted in the context of Article 19. Overall, it underlines that the norm is freedom, and that any restrictions should be exceptional and subject to necessity and proportionality.

Second, there is the guidance of the Rabat Plan Plan of Action on the prohibition of advocacy of national, racial or religious hatred that constitutes incitement to discrimination, hostility or violence. The Rabat Plan was developed in 2012 by the UN’s Office of the High Commissioner for Human Rights. It cautions us against illegitimate restrictions of speech based on purported implementation of ICCPR standards.

The Rabat Plan proposes a nuanced approach to assessing expressions of hatred in terms of whether they really incite harm. This approach suggests that restriction should only be considered in terms of an assessment of:
(a) context of effect (the intent and likelihood),
(b) the status of the speaker,
(c) the specific content,
(d) the reach of the expression, and
(e) the actual imminent likelihood of resulting harm. This calls on us to use our heads, not our hearts, in reacting to the relationship of expression to the issue of violent radicalization.

Third, there is recognition by regional and UN rapporteurs that speech can be “offensive, shocking and disturbing”, without necessarily constituting a threat to national security, or hatred that incites harms, or propaganda for war.

What all this means is that a delicate differentiation needs to be struck in regard to protecting freedom of expression – at the same time as identifying and responding appropriately to expressions that are put to the service of violent extremism.

This raises the issue of whether it is possible and meaningful to distinguish between two cases of expressions. On the one hand, there is expression that meets the ICCPR, the Rabat Plan and rapporteur tests – even if “offensive, shocking or disturbing” to some – and is thus not justifiably restricted. On the other, there is expression that takes extremism to the point of incitement to harm (discrimination, hostility and violence), endangering national security, or mobilising for war.

Conceptually, we should not assume a necessary link between these two different types of expressions, and we should not violate legitimate expression “just in case” or in the belief that it is part of an inevitable spectrum of causality that ends in incitement to harm. It is important here not to forget the insight of the Rabat Plan, which highlights the complexity of identifying and prioritizing what expression is actually dangerous and thus merits special attention.

Such cautions, however, are often casualties of political pressure to show quick responses to terror attacks. Social media companies are sometimes simplistically accused of responsibility, and called on to do more to prevent online radicalization of young people leading to violent extremism.

Yet, while this perspective blames the Internet for violent radicalization, it is not at all clear if this factor were simply removed (through Internet shutdowns, for example), this would put an end to the problem. Equally, removing patently dangerous online expression on its own would not guarantee a solution to a problem that evidently has underlying and deeper dimensions to it.

What is very clear, however, is that removing expressions can create even more problems – by leading to violations of legitimate expression, whether by state entities or Internet companies. This point has been strongly made by four Special Rapporteurs on freedom of expression,2 and has also been underlined by many civil society actors.

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What all this points to is the importance of seeking evidence about the actual role of the Internet in violent radicalization, and the equivalent importance of seeking evidence about the impact of Internet-related responses.

In an effort to bring scientific and academic findings into the picture, UNESCO commissioned this research. This exercise results from the ongoing efforts initiated in 2015, including by the Intergovernmental Information for All Programme (IFAP), when UNESCO led the first-ever international conference on ‘Youth and the Internet: Fighting Radicalization and Extremism’.

This was followed in 2016 by the international conference ‘Internet and the Radicalization of Youth: Preventing, Acting and Living Together’, co-organized by UNESCO, IFAP and the Government of Québec, with the support of the Canadian Government. The resulting ‘Quebec’s Call for Action’ (‘Appel de Québec’) called upon the international community to take multidimensional action to combat violent extremism. This year, in May, UNESCO and IFAP also organized an international conference on “Youth and ICT: Towards Countering Violent Extremism in Cyberspace” in Beirut, Lebanon.

As background, it is relevant to note that in 2013, the UNESCO General Conference passed a resolution on Internet-related issues which encouraged international and interdisciplinary reflection and debate on the ethical challenges of emerging technologies and the information society. This was followed in 2015 by the conference CONNECTing the Dots that led to the decision 56 of the General Conference titled “CONNECTing the Dots: Options for Future Action: UNESCO’s role in Internet-related issues” which endorsed a range of options, including a call for human rights-based ethical reflection, research and public dialogue on the implications of new and emerging technologies and their potential societal impacts. It is on these foundations that this report was commissioned.

It can be added further that in October 2015, UNESCO’s Executive Board adopted a decision on UNESCO’s role in promoting education as a tool to prevent violent extremism. This expressed concern about “violent extremism which can be conducive to terrorism, and the worldwide challenge of recruitment and radicalization to violent extremism of youth in media, in communities and in schools”. It referred also to the UN’s Global Counter-Terrorism Strategy adopted in 2006 by General Assembly resolution 60/288, which encouraged UNESCO to play a key role in regard to measures to address the conditions conducive to the spread of terrorism.

It is clear that the strategic solution to violent extremism lies, inter alia, in education. Recognizing the need for such long term solutions. This implies that in the short term, we must find policies of prevention and positive communication that protect expressions of identity while eschewing violent extremism. Relevant here is that in its 2015 decision, the UNESCO Executive Board highlighted the importance of UNESCO helping to prevent violent extremism through promotion of global citizenship education and related activities.

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4 http://en.unesco.org/ConfQcUNESCO/home
5 38 GC/Decision 56; http://unesdoc.unesco.org/images/0024/002433/243325e.pdf
6 Decision 46 adopted at the 197th session of UNESCO’s Executive Board (197 EX/Decision 46) http://unesdoc.unesco.org/images/0023/002351/235180e.pdf
and programmes. In follow-up to the decision, the Director-General reported on progress to the Executive Board in August 2016 (see 200 EX/9), including reference to the production of this report.

The results of the study reveal that there is a scarcity of findings for enhancing our understanding about Internet and expressions of violent extremism. There is thus an absence of knowledge that could feed evidence-based policy for preventing and countering the phenomenon. This state of affairs may partly reflect the lag between the pursuit of academic research and the subsequent publishing. It certainly does reflect weaknesses in much of the scholarship to date.

In turn, this observation highlights the importance of addressing further research into these issues. However, it also points us back to the importance of the fundamental principles and values of the ICCPR, the Rabat Plan and the wisdom of the Rapporteurs.

It may take time until we get more credible and comprehensive, even if not definitive, research that can complement these international instruments and inform our policy development and practice. But at least we do not stand empty-handed in approaching the complexity of freedom of expression and online incitement to violent extremism.

Frank La Rue
Assistant Director-General
for Communication and Information
EXECUTIVE SUMMARY

Does social media lead vulnerable individuals to resort to violence? Many people believe it does. And they respond with online censorship, surveillance and counter-speech. But what do we really know about the Internet as a cause, and what do we know about the impact of these reactions? All over the world, governments and Internet companies are making decisions on the basis of assumptions about the causes and remedies to violent attacks. The challenge is to have analysis and responses firmly grounded. The need is for a policy that is constructed on the basis of facts and evidence, and not founded on hunches – or driven by panic and fearmongering.

It is in this context that UNESCO has commissioned the study titled Youth and Violent Extremism on Social Media – Mapping the Research. This work provides a global mapping of research (mainly during 2012-16) about the assumed roles played by social media in violent radicalization processes, especially when they affect youth and women. The research responds to the belief that the Internet at large is an active vector for violent radicalization that facilitates the proliferation of violent extremist ideologies. Indeed, much research shows that protagonists are indeed heavily spread throughout the Internet. There is a growing body of knowledge about how terrorists use cyberspace. Less clear, however, is the impact of this use, and even more opaque is the extent to which counter measures are helping to promote peaceful alternatives. While Internet may play a facilitating role, it is not established that there is a causative link between it and radicalization towards extremism, violent radicalization, or the commission of actual acts of extremist violence.

Section 1 introduces the Report, its objectives and its structure. Thereafter, definitions are discussed in Section 2.

Sections 3, 4, and 5. Based on a bibliometric and scientific study of research conducted in Europe, North America, Latin America, the Caribbean, the Arab world, parts of Africa and Asia on the links between the use of social media and the phenomena of radicalization, the Report analyzes more than 550 studies published in scientific literature and “grey literature”, covering outputs in English (260), French (196) and Arabic (96). It shows that very little research has focused on the effective role of the use of social media in violent radicalization. Although many articles deal with electronic strategies and the use of the Internet and online social media for recruitment, there are very few empirical studies that describe and examine the real effects of these strategies on youth, and they rarely examine gender aspects.

Section 6. The Report examines the specificities of online prevention initiatives: counter/alternative narratives and media information literacy (MIL). Several formal and informal MIL initiatives have been implemented around the world according to MIL as a pedagogical practice with a specific set of skills that can respond to narratives of anger and revenge. These initiatives also aim at creating digital counter-narratives that reflect youth perceptions of itself and others, especially in terms of countering injustice, experiences of discrimination,
corruption and abuse by security forces. Other programs target youth directly, for their own empowerment primarily, on the premise that MIL can positively participate in the marginalization of violent extremism if not its containment.

Section 7. The current state of evidence on the link between Internet, social media and violent radicalization is very limited and still inconclusive, and particularly in the field of information and communication sciences as compared to other disciplines (history, sociology, psychology). Most of the reviewed studies remain predominantly descriptive and whenever empirical data is drawn, most studies are of low methodological quality, small-scale and rely on limited data sets. As a result, they fail to provide evidence on the drivers of interest to extremist sites, engagement in social media on these issues, the reasons for influence of content and the external and internal correlated factors, as well as the trajectories of youth who come to perpetrate violent acts. This being said, some evidence also suggests that Internet and social media may play a role in the violent radicalization process, mainly through the dissemination of information and propaganda, as well as the reinforcement, identification and engagement of a (self)-selected audience that is interested in radical and violent messages.

Sections 8. In this section, analysis of the effects of social media on the violent radicalization shows that there is a small amount of qualitative data on the subject, in contrast with the literature on the empowerment of young people on the secure use of the Internet. While there is an increase of the the ‘grey’ literature, the academic field is more under-researched and under-theorized. Moreover, several studies lack important methodological measures such as case studies, small data sets (small-scale corpus, limited data sets, instantaneous analyses). The exact roles and processes through which Internet and social media contribute to the process of radicalization still need to be explored. However, there is insufficient evidence to conclude that there is a causal link between extremist propaganda or recruitment on social networks and the violent radicalization of young people. The synthesis of evidence shows, at its best, that social media is an environment that facilitates violent radicalization, rather than driving it.

Section 9. This section offers recommendations that can be useful for various stakeholders. Violent radicalization of youth needs to be taken as a complex process, in which social media are not separated from other communication platforms, and from various offline factors. While reception of online radicalization efforts is still under-researched, the activities and uses of social media by terrorists are well known. Research confirms that many of these uses are meant to foster fear among Internet users in general, in addition to ambitions to recruit or incite individuals to join their cause and engage in violence. Attempts to prevent Internet dimensions of the violent radicalization of youth do not have proven efficacy, but on the other hand it is clear that they can damage online freedoms, especially freedom of expression, freedom of information, privacy and the right to association. More explicitly theorized and evidence-based results are needed concerning both radicalization processes online and the outcomes of online prevention and policy measures.
1.1 Scope of the Report

The Internet offers significant possibilities for supporting the fulfillment of the 2030 Sustainable Development Agenda and advancing all human rights, including access to information, freedom of expression and privacy. Certain forms of Internet use and Internet-related effects may also lead to violations of these rights. UNESCO therefore seeks to promote awareness amongst all stakeholders, to foster debate and to find solutions towards mitigating adverse outcomes and amplify the widest dissemination of benefits and opportunities. Part of this effort is to commission this study titled *Youth and Violent Extremism on Social Media* to provide a global mapping of research into the assumed roles played by social media in radicalization processes across all the regions of the world.

Acts of terrorism worldwide have challenged our ability to understand the radicalization phenomenon and, most importantly, to generate the knowledge needed to make sense of such acts and to prevent them. Research has become a valid tool for understanding radicalization, constructing collective intelligence, and taking practical steps so as to enable sharing of expertise on this topic. One such area of knowledge-building is the investigation of the role of Internet, and social media in particular, in violent radicalization processes and terrorism.

Over the past 10 years, prominent researchers in the fields of the humanities and the social sciences, such as technology, education, political science, psychology and sociology, have been investigating the dynamics of digital social networks and, to a larger extent, the digital universe (games, videos, blogs, forums). Several scholars have been specifically examining the link between the social media and the growing role of personal, political, ethnic, religious, and violent radicalization of youth in sectarian or political groups.

Many claim that the Internet is increasingly an active vector for violent radicalization that facilitates the proliferation of extremist ideologies in low cost, fast, decentralized, and globally connected networks (Awan, 2012; Hawdon, 2012). Terrorist groups are now heavily spread throughout the Internet and use this cyberspace in different ways, from online recruitment to the broadcasting of violent content. This report focuses on reviewing studies investigating the processes of digital radicalization, the potential effects of social media on the radicalization of young people leading to violent extremism, and the role of alternative counter-narratives to prevent violent extremism.

In this report, the term “cyberspace” is used to denote the Internet, as a network of networks, and “social media” as a social network that may combine various Internet platforms and applications to exchange and publish online. All facets of social media are considered, that
is, the online production of radical (political, social, religious) resources or content, the presence of terrorist or radicalized groups within the social networks, and the participation of young people in radical conversations. The main objective is to synthesize evidence on how social media may, or may not, act as vectors of violent extremist discourses and may, or may not, constitute more or less controlled spaces for exchange that can be favorable to violent extremist forms of engagement. The main corpus of analysis is composed of scientific articles covering all facets of cyberspace in relation to social networks and their related digital environment. When academic empirical studies were not available, grey literature and reports were included.

The objective of this report is to:

- Conduct a systematic review of research on the roles played by Internet and the social media in violent radicalization;
- Assess the current state of research scholarship on the direct or indirect effects of social media on violent radicalization;
- Conduct a review of the research into the outcomes of online prevention and intervention initiatives on violent radicalization;
- Formulate recommendations for future research and prevention of violent radicalization through the Internet and social media;

With the help of a multidisciplinary and multicultural team, the report uses a multi-level approach to capture the complexity of the phenomenon by:

- Taking into consideration the vulnerability factors of youth, such as identity struggles, behavioural problems, delinquency, and quest for significance;
- Examining the role of the Internet and social media with regards to exposure to violence and indoctrination methods as well as dissemination of information;
- Exploring how extremist recruiters use available narratives and discourses to attract and bond with young people.

The report applies the review methodology developed by the Campbell Collaboration for systematic reviews (see Appendix 1 for an extensive description of the search and synthesis methodology). The systematic review includes assessment of quantitative and qualitative empirical data on correlations between the repeated uses of social networks and engagement in a process of violent radicalization. The literature that links hate speech, “fake-news” and radicalization discourses and the levels of influence (direct influence and indirect reciprocal influences) of these discourses is also taken into account. The synthesis of evidence focuses on consensus and disagreement points on the links between the processes of violent radicalization and social media in order to better inform international policy-makers, the scientific community and other interested parties.
1.2 Structure of the Report

This review encompasses the diverse forms of violent radicalization phenomena, which aim to use violence as a *modus operandi* of their claims, communication and action strategies. Radicalization is seen as a process of rupture within society. Adherence to ideas leading to violent extremism may then lead individuals down the path to participation in acts of violence. Because the concept of violent radicalization is still far from being unanimous, Section 2 of this report is dedicated to define the concept as it is used in the systematic review searches. Sections 3, 4, and 5 synthesize the evidence on the role of Internet and social media in violent radicalization of youth in four large geographical areas where scientific literature is available, notably North America and Europe, Latin America and the Caribbean, Asia, Africa, and the Arab world. Section 6 is dedicated to the synthesis of research on online prevention initiatives, namely Media and Internet Literacy (MIL) programs. Section 7 summarizes key findings of the review and sections 8 and 9 address main conclusions, limitations, future research and prevention recommendations. Appendix 1 provides a detailed description of the systematic review methods and Appendix 2 provides an exhaustive global mapping of research centers currently working on the role of social media in violent radicalization processes in all regions. Appendix 3 provides a table of the research centers and institutions included in this review. Appendix 4 provides Québec's Call for Action. Appendixes 5 to 9 (which are online only) include bibliographies.
DEFINITIONS

Because the terms of “radicalization”, “terrorism” and “war against terrorism” are at the heart of a communication polemic in mainstream media as much as in social media, it is necessary to reflect upon the use of these terms by challenging the assumptions they combine and the semantic specifications associated with them (Rousseau et al., 2016). Denoted words and their attendant labeling are not isolated from the social sphere they represent. In fact, they are indicative of powerful political tools that justify and mobilize action. Therefore, definitions relate to highly politicized semantic fields, which fluctuate with shifts in political priorities.

This review takes into account the critical approaches of the sociology of radicalization (Guibet & Lafaye, 2016), which highlights the political, cultural and social contradictions of the very notion of radicalism. Radicalism has been used inappropriately and interchangeably with notions such as fundamentalism (which usually refers to a religious approach), indoctrination (which refers to a process of mental control), Jihad, extremism and terrorism, among others. Because the term radicalization is overused and caught in various rhetorical trappings, it is essential to draw upon the origin of this term, which is related to the word “root”, the fundamental origins of an idea, or a cause. Radicalization, in its epistemological sense, thus refers to anchoring oneself in one’s knowledge, opinions, values and beliefs to determine one’s behavior. In this meaning of the word, revolutionary political theories like Marxism, or social movements like the suffragettes, or Gandhi’s fight against British colonization and revolutionary scientific theories such as Einstein’s theory of relativity can be qualified as radical ideas. Furthermore, any social change such as radical feminism, the end of slavery or colonization and the like is grounded in radicalized positions that form and support social transformations. In this sense, they are “extremist” when viewed from the vantage point of a status quo. Many of these theories and movements have significantly contributed to the improvement of societies and individual freedoms and rights, with or without the use of violence. As Moscovici (1976) has showed, such movements can sometimes be viewed as the source of innovation and social change. It is thus essential to distinguish the radicalization of ideas from the radicalization of actions, and to also distinguish radicalization toward extremism, violent radicalization (when extremism becomes violent), and from acts of extremist violence including terrorism (as a particular form and logic of violence).

According to reports and policies such as those originating in the European Union and the United Nations, the term radicalization is referred to as a process that leads to extremism and possibly terrorism (Commission of the EU Parliament, 15 March 2015). Violent extremism seems to bridge the gap to terrorism. The latter while not defined by the UN is understood in this study as describing the use of real or symbolic violence against civilians for a political purpose (Doucet, 2005). It consists of the use of violence to instill fear, destabilize and then
Currently, there is no consensual definition of radicalization. Authors refer to it in different ways. In line with its multi-disciplinary and multilevel approach, this report draws from three complementary definitions of radicalization. The first definition emanates from Farhad Khosrokhavar (2014) who defines the concept of “radicalization” at a micro-level, with a focus on the individual person. Violent radicalization is analyzed as an individual engagement and process of indoctrination into violent actions, with special attention to emotional and cognitive processes of influence. According to Khosrokhavar, radicalization is a process by which an individual or a group comes to take up a violent form of action. It is directly linked to an extremist ideology that contests the established order at the political, social or cultural level. Khosrokhavar's definition helps examine the potential power of the Internet acculturation that leads to the creation of an oppositional hero’s identity among vulnerable individuals. Khosrokhavar's main focus is on Islamist religious radicalization in the West. Therefore, such an approach is limited in terms of analyzing other forms of radicalization, and in other contexts. It further suggests that radicalization is inherently linked to violence, whereas radicalization may be a process towards extremes that do not embrace or catalyse acts of violence.

The second definition is derived from the German sociologist, Wilhelm Heitmeyer (1989; 2002) who examined processes generating right wing extremism. He developed a theory of social disintegration taking into account the different levels of an individual’s ecosystem and their interrelation. This is in reference to the socio-psychological arguments of the Frankfurt School whereby violent radicalization is viewed as the product of a combination of individual experiences and social conditions that generate social grievances. According to Heitmeyer (1989), “Right-wing extremist orientation is characterized by elements or alternatives against social models defined theoretically, but practically is often based on unrealized promises of political democracy, individual possibilities of freedom and equality” (Heitmeyer, 1989, p. 164-76). Thus, at a macro level, extreme right wing violent radicalization can be considered as a form of war or guerrilla warfare, challenging long-established power relations and endangering civil liberties and security. This approach is limited in regard to its suggestion that radicalization entails acts of violence.

Based on the ecosystematic framework, a third definition is used by Schmid (2013) who defines radicalization as an individual or collective process. The term emerges from the friction of intercommunity relations and is associated with a situation of political polarization. The practices of dialogue, compromise and tolerance between different players are abandoned, by at least one of the parties, in favor of an escalation of confrontational and violent tactics. This definition also encompasses the often-overlooked serious impact of rupture in democratic dialogue and in citizenship engagement. It has the advantage of describing how ideological, indoctrinating, collective discourses are constructed where “others” are portrayed as radically different from “us”. The latter being then construed as abused, under threat, victims in need to be defended, while the “other” is dehumanized (e.g. constructed as evil; e.g. the category of “Kafir” used by Islamist radicalization or “pigs, animals” used by right wing extremists in reference to different groups). Consequently, the act justifies exclusion, persecution and possible violence. At the same time, it points
to radicalization as a dynamic two-way process, rather than a unilaterally assigned label to one of the protagonists. Studies show that those processes, well known offline, increase online de-individuation and group polarization effects (Spears & Postmes, 2015; Reicher et al., 1995); affective mobilization (Ernst-Vintila & Macovei, 2016); group loyalty (Sageman, 2011/2016); opinion-based communities/bubbles (McGarty et al., 2014) and confirmation biases. For these reasons, Schmid’s systemic comprehension is valuable to the development of efficient and primary prevention initiatives. In this study, such initiatives are referred to as “preventing violent extremism” (PVE) and the “countering violent extremism” (CVE).

Those aforementioned definitions allow us to conceptualize violent radicalization as the dynamic and complementary coexistence of at least three levels observable both in the real world and in cyberspace:

- The individual person’s search for fundamental meaning, origin and return to a root ideology;

- The individual as part of a group’s adoption of a violent form of expansion of root ideologies and related oppositionist objectives;

- The polarization of the social space and the collective construction of a threatened ideal “us” against “them”, where the others are dehumanized by a process of scapegoating.

In relation to the particular characteristics of the social media, those levels are even more visible through the different aspects of radicalization within the media including the dissemination of propaganda by radical groups, representation of violent identity in the media and social media, as well as, mutual polarization and “othering” (co-radicalization hypothesis, Pratt, 2015; Reicher & Haslam, 2016).

In terms of theoretical assessment of the literature, this review is sensitive to assumptions about radicalization processes via Internet-mediated communications, and other offline interactions and experiences. The review notes that the sociology of media points out that social media have increasingly become vehicles of internal and external social and political realities, that they also contribute to representations based on different agendas that vary in space and time (Schmid, 2013). Two major sociological schools theorize the reception of Internet and social media. The critical effects-based school claims that Internet and social media have become highly powerful means of communication that currently produce a total disorganization effect on all communication tools and processes. Social media are seen as active levers for hate speech, conspiracy theories and the rise of extremism through desensitization that leads to accepting the use of violence. The socio-psychological use-based school sheds doubts on the structuring effects of social media by empirically identifying only indirect and limited effects. In this perspective, the role of social media in violent radicalization and extremism constitutes the translation of real offline social ruptures.

In this Report, radicalization in the literature is assessed in terms of a conceptual distinction between a process of radicalization, a process of violent radicalization (legitimizing the adoption of violence), and acts of violence, even if these are sometimes conflated in the studies that are examined.
The following section synthesizes the current state of research in Europe, North America, Latin America and the Caribbean. The four geographical areas are combined due to the commonalities and convergences in the academic and grey literature. However, this trend must not overshadow the specificities of historical, political, economic and social contexts that breed, or protect from, violent radicalization in each of the specific societies that are constituted within this grouping.

Importantly, it should be kept in mind very clearly that for digital natives, the Internet is a “natural” extension of the off-line society as it is known by other generations. Indeed, Postmes & Brunsting (2002) brought early empirical evidence to the fact that online action is often considered an equivalent alternative to offline action (by activists and non activists alike), and also argued that the web can promote identity formation and help build communities.

Very little research has addressed the effective role of the use of social media in violent radicalization. Although a large number of articles deal with terrorists’ e-strategies and uses of Internet and social media online for recruitment, there are very few empirical studies that describe and examine the actual effects of these strategies on youth (Ernst-Vintila, in preparation, 2017) and rarely do they examine gender-related aspects.

3.1 A recent research field

It is difficult to disentangle Internet, the web and social media literature before 2005, the update of web-based social networks. Despite more focused research by the year 2010, social media were still subsumed in “the network” metaphor (Goede, 2012), which was used to encompass the entire Internet, including Web applications and derived platforms. The metaphor of the network carries with it a certain amount of values, such as transborder connectivity, and a platform that renders the world actionable and amenable to intervention. But it is also increasingly recognized as also being a technology risk, which carries with it a sense of danger with the rapid spread of viruses, rumors and hatred. At the same time, as far as radicalization, extremism, and terrorism are concerned, the network is not only
part of the problem, but also part of the solution. The Internet is not in and of itself a lever for radicalization, violent or otherwise, but the current uses of the social media and the issues of regulation of information online merit research as to whether they are effectively used as a contributor to the radicalization of ideas and of development of violent extremist mindsets, and possible actions, especially among young men and young women.

Most of the research in the regions discussed here between 2005 and 2011 tends to focus on the positive uses of the Internet and social media by youth, even under the EU “safer internet” program in 1999. A few studies examine the negative uses by adults (mostly in relation to pedophilia, pornography and cyber-related violence or cyber-related harassment; see Livingstone et al., 2011). Individual strategies rather than collective ones are also the main focus of attention, and very few studies address the extremist (political or religious) use of cyberspace. During that earlier period, terrorist groups are not yet clearly identified as political groups but rather as a section of the online sub-cultures. This may have led to an under-estimation of the speed of their transformation and their increased networking power.

Since 2012, partly due to the 2011 Arab Spring and the convening power of social media, some research has pointed to the similarity of social media and terror groups in their function as networks in that they are both decentralized, ubiquitous, and mobile (Conway 2007; Schils & Laffineur, 2013). With Internet and the social media, the public shifts from passive to active agents who “gather information on their own, rather than wait for news organizations to filter and then deliver it” (Seib, 2006, p. 78). The socialization extends to the production and sharing of information within such online networks. The features of the Internet have led to a transformation of extremist groups’ tactics. These groups have adapted to the dematerialized potential of the web. There is a consensus among researchers that some key features of the Internet differentiate it from traditional media. Internet offers information in bigger volume and higher speed, as well as in diverse formats such as all kinds especially video for visual communication and emotion, interactivity two-way communication, horizontal links, and the like (Nag, 2011). It is also decentralized and open to individual control (Tsafiti & Weimann, 2002; Weimann, 2006). It offers the possibility to research or post information in degrees of anonymity, and under little government surveillance or control especially where countries with high levels of free speech protection have little censorship of Internet content. Furthermore, information can be posted on local networks while targeting a global audience across time and space, reaching anywhere and anytime (Conway, 2007; Schils & Laffineur, 2013). The social media platforms that have these characteristics have offered significant advantages to extremist groups that may otherwise have stayed marginal in terms of communication means.

3.2 Research on the specificities of social media

Recent research has been looking into violent extremists’ increasing use of social networking sites, such as Facebook and Twitter with additional inroads into YouTube – all of which are used for propaganda (the web as “theatre of terror”, Weimann, 2008), recruitment (Weimann, 2006), and fundraising. The literature still mostly consists of grey literature descriptive reports. Some interesting contributions include the report titled #Greenbirds:
Measuring Importance and Influence in Syrian Foreign Fighter Networks that documents the use of social media for decentralized recruitment and targeting of young audiences (ICSR, 2013). The report, *Trending Jihad*, by the Quilliam Foundation (2014) is also of interest as it breaks down each major social network and analyses its features, compares and contrasts them in their respective roles, as well as contrasts them with websites and chat rooms. It is important to note that the aforementioned reports focus solely on Islamist violent radicalization and do not examine the spectrum of all other violent radicalization forms and groups. The information they provide is thus not necessarily generalizable to other groups.

The sub-sections that follow present a selection of descriptive information available on the main social media platforms. There are several other channels that are used by diverse violent extremist groups, but no study or report was found tackling these platforms. Another limit is that few of the reviewed are based on extensive empirical research. This means there is no definitive evidence on the direct link between the specificities of social media and violent radicalization outcomes on youth in the regions covered here.

### 3.2.1 Chatrooms
Chatrooms can be embedded within most Internet-based media. Reports that have looked into the use of chatrooms by violent extremist groups, describe these as the space where at-risk youth without previous exposure would be likely to come across radicalizing religious narratives (Quilliam, 2014; Shah, 2012). This goes in line with Sageman’s (2004) emphasis on the role of chatrooms and forums, based on his distinction between websites as passive sources of news and chat rooms as active sources of interaction. According to Sageman, networking is facilitated by discussion forums because they develop communication among followers of the same ideas (experiences, ideas, values), reinforce interpersonal relationships and provide information about actions (tactics, objectives, tutorials). Chatrooms can also include spaces where extremist people share information such as photos, videos, guides, and manuals (Sageman, 2008). That being said, the role of such for a in actual planning and coordination of attacks is not evident within the literature surveyed by this study.

### 3.2.2 Facebook
Although many extremist groups are ideologically and strategically anti-Facebook, some maintain a strong presence on this platform either directly or through supporters (Quilliam, 2014). Facebook however, does not seem to be used for direct recruitment or planning, possibly because it has mechanisms of tracking and can link users with real places and specific times. Instead, Facebook at least in the past appears to have been more often used by extremists as a decentralized center for the distribution of information and videos or a way to find like-minded supporters and show support rather than direct recruitment (Quilliam, 2014; Shah, 2012). This may be on the possibility that young sympathizers can share information and images and create Facebook groups in a decentralized way.
3.2.3 Twitter

Micro-blogging sites like Twitter present more advantages for extremist groups because traceability of the identity and the source of the tweets are harder to achieve, thus increasing the communication potential for recruiters (Crettiez, 2011; Quilliam, 2014; Menkhaus, 2014). Analyses of Twitter feeds generated by Islamist violent extremist groups show that they are mostly used for engaging with the opposition and the authorities, in what appear to be tweetclashes that mobilize the two sides, and also used for provocation (Quilliam, 2014). In addition, through Twitter, extremists can easily comment publicly on international events or personalities, in several languages, thus enabling the activists to be vocal and timely when mounting campaigns (Quilliam, 2014).

3.2.4 YouTube and other video platforms

YouTube remains the video-sharing platform of choice despite the increased competition from other platforms, such as Dailymotion, Vimeo, and the like. It has the advantage of being difficult to trace the identity of people posting content, while offering the possibility for users to generate comments and share contents (Quilliam, 2014). The three major reasons for generating video messages by Islamist violent extremists are praising martyrs, promoting suicide bombing and delivering propaganda in favor of extremist ideology (Conway & McInerney 2008; Quilliam, 2014). The Quilliam Report (2014) publishes a comprehensive analysis of the content of Islamist violent extremist videos published on YouTube. It describes how the content targets a sympathetic audience, and focuses on education and the praising of martyrs, with less overt violent content such as suicide bombings. This might be an implicit strategy to subvert the extremist labeling that might lead to government blocking or censoring, or lead YouTube to act proactively and remove content that is in breach of its user guidelines (Quilliam, 2014; Vergani & Zuev, 2015).

Several researchers have conducted content analyses of YouTube and Facebook extremist discourses and video contents to identify the production features most used, including their modus operandi and intended effects (Salem, Reid & Chen, 2008; Tomomi, 2013). Studies that have focused on the rhetorical strategy of extremist groups show the multifaceted use of online resources by extremist groups. That is, they produce “hypermedia seduction” via the use of visual motifs that are familiar to young people online (Ganor et al., 2007; Fighel, 2007; Raffaello, 2011; Vergani, 2014); and they provide content in several languages, mostly Arabic, English and French using subtitles or audio dubbing, to increase the recruitment capacity of youth across nations (Weimann, 2010). These videos provide rich media messaging that combines nonverbal cues and vivid images of events that can evoke psychological and emotional responses as well as violent reactions (Salem, Reid & Chen, 2008). Terrorists capture their attacks on video and disseminate them though the Internet, communicating an image of effectiveness and success. Such videos in turn are used to mobilize and recruit members and sympathizers. Videos also serve as authentication and archive, as they preserve live footage of actual damage and they validate terrorist performance acts.

YouTube has responded to concerns by creating a technology that “focuses on the slice of ISIS’ audience that is most susceptible to its messaging, and redirects them towards curated YouTube videos debunking ISIS recruiting them”. This tool was “developed from interviews
with ISIS defectors, respects users’ privacy and can be deployed to tackle other types of violent recruiting discourses online.” It is does not seem there has yet been academic research into this initiative.

3.2.5 Social media self-regulatory measures

Very little research evaluates the impact of self-regulation measures by social networks against violent extremists (Council of Europe, 2012; Gagliardone et al., 2015). In fact, the need for this research is on the rise due to governments’ pressure, as they require social networks and Internet providers to act on information related to alleged terrorists. All major social media platforms have their own statements of rights and responsibilities or Terms of Service whereby they explicitly position themselves in relation to “hate speech” (which is variously defined) and gratuitous violence, discriminatory and unlawful content. They often reserve the right to take down or refuse to distribute such content, while pledging to not disclose user information so as to respect their privacy (except in cases of harm done to others or legitimate requests by the authorities). Over time, several social media providers have created a group of reviewers who examine each complaint sent to them. An analysis of their yearly transparency reports shows the increase in requests from governments rather than from individual users (Organization for Security and Co-operation in Europe, 2013).

There have been recent developments within the industry (bilaterally and through organizations like the Global Network Initiative) to share best practices. One of these enables sharing of digital “fingerprints” dubbed (hashes) which identify “violent terrorist imagery or terrorist recruitment videos or images” so that offending content removed from one company’s services can be easily blocked from reappearing elsewhere – at least within the four co-operating entities of Facebook, Microsoft, Twitter and YouTube.

3.2.6 Social media and virtual identity

Research on violent radicalization in Europe, North and Latin America and the Caribbean highlights the importance of collective identities for group mobilization (Hunt & Benford, 2004; Melucci, 1995; Taylor & Whittier, 1992). This makes social media an attractive target for the dissemination of extremist narratives and actions. More precisely, extremist groups target collective identities, through relational and emotional bonds, in order to achieve endorsement of their values. Researchers have referred to processes such as “identity fusion” (Swann & Buhrmester, 2015), whereby an individual personal identity is gradually overshadowed by radicalized group identity. This leads to a total endorsement of the narrative proposed by the extremist group. The process is even faster with those young people who are “lone actors” who are already struggling with needs for belonging (Gill et al., 2014; Malthaner & Lindekilde, 2015) and who may construct a fantasy of belonging to terrorist groups.

This process of identity fusion can also be explained online via the Social Identity and De-individuation Effect or SIDE model (Spears & Lea, 2003; Reicher, Spears, & Postmes, 1995),

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7 See the website https://redirectmethod.org/

whereby the coexistence in the digital world of plural virtual identities may facilitate a process of de-individuation — understood as a separation from one’s individuated identity — and the adoption of a new group identity. This process is also facilitated by the manipulation of young people’s need for “extimacy” (virtual meetings, virtual dating) to develop new social networks and new affiliations through intimate virtual encounters and group discussions. This identification process involves an affective component. Indeed, researchers identified and even measured a “sense of virtual community” (Blanchard & Markus, 2002; Blanchard, 2007) and a “sense of presence” which increases in emotional environments (Riva et al., 2007), and which matters more to people than their “objective” (offline) social network itself (Bruchon-Schweitzer, 2014). When it comes to action, this complex process has significant effects: in online actions the influence of affective affiliation with the ingroup may be even more pronounced than offline (Postmes & Brunsting, 2002).

In this vein, an expanding literature shows that social networks that are characterized by strong emotional and community connections exploit youth vulnerability (Bush, 2015). They are thus often considered as an intermediate outcome for violent radicalization among young people, although research has not demonstrated an inevitable teleology.

### 3.2.7 Other areas of the social media scape: videogames

Videogames can be placed in a similar category as social media because they increasingly have their own forums, chatrooms and microblogging tools. Videogames, widely used by young people, are under-researched in relation to extremism and violent radicalization. There is mostly anecdotal evidence that ISIS supporters have proposed modified versions of some games to spread propaganda (Grand Theft Auto 5) formats that allow players act as terrorists attacking Westerners (ARMA III) and provide for hijacking of images and titles such as Call of Duty to allude to a notion of jihad.

Selepack (2010) used qualitative textual analysis of hate-based videogames found on right-wing religious supremacist groups’ websites to explore the extent to which they advocate violence. The results show that most hate groups were portrayed positively, and that videogames promoted extreme violence towards people represented as Black or Jewish people. The games were often modified versions of classic videogames in which the original enemies were replaced with religious, racial and/or ethnic minorities. Their main purpose is to indoctrinate players with white supremacist ideology and allow those who already hold racist ideologies to practice aggressive scripts toward minorities online, which may later be acted upon offline (Selepack, 2010). It should be noted that some experimental social psychologists show that cumulative violent videogames can increase hostile expectations and aggressive behavior (Hasan, Bègue, Scharkow & Bushman, 2013).

### 3.2.8 Other social communications

It is important to keep in mind that social media with relatively open public interfaces are increasingly existing alongside social messaging to closed social groups, sometimes also covered by encryption (at least in the transit of the communications even if not encrypted at the moment of creation and moment of consumption). Therefore, it would be a mistake to take a social-media-centric point of view, and overlook the likelihood that various aspects
of radicalization may be occurring in private small group communications, as well as one-to-one messaging or email. However, this realm is not evident in the literature assessed in this study.

### 3.3 Uses of Internet and social media by extremist groups for “religious” radicalization

This section describes the findings in the literature about current uses of Internet and social media by diverse extremist groups. While some groups may have specific uses, there seem to be commonalities across the diverse extremist groups, which may justify the merging of evidence to draw wider conclusions.

Before 2005-06, most of the research on the uses of Internet and social media focused on political extremism, mainly white supremacists in the USA, via the operations of their websites as precursors of social media (Adams & Roscigno, 2004). Their “oppositional culture” was examined either in traditional ways (modes of recruitment, types of actions) or in terms of outreach capacity (focusing on affinities, group identity). The Internet is presented as a new, cheap and easy-to-integrate medium that adds to the communication strategies of such fringe groups. In more recent years, research focus in the regions discussed here has turned to violent radicalization claiming religious rationales, especially in the light of messaging targeting potential recruits not just in the Middle East, but in the West and elsewhere.

#### 3.3.1 The types of usage of Internet and social media

In recent times, more understanding has arisen about the numerous advantages of the Internet and social media for extremist groups using religion as part of a radicalization strategy. Most current evidence comes from reports on radicalized violent groups, focusing mostly on ISIS's Internet strategy.

The advantages stem from the very nature of Internet and social media channels and the way they are used by extremist groups. These include communication channels that are not bound to national jurisdictions and that are informal, large group, cheap, decentralized and anonymous (Hale, 2012; Neumann 2013). This allows terrorists to network across borders and to bypass time and space (Weimann, 2015). Specifically, these channels provide networks of recruiters, working horizontally, in all the countries they target due to the transborder nature of the Internet. Infused with particular interpretations of Islam, these channels are used in several ways to:

- Create appealing, interactive user-friendly platforms to attract younger audiences (Weimann, 2015);

- Offer spaces where groups can maintain secret but highly democratic communication modes on the assumption that everyone can participate (Weimann, 2010);
Disseminate extremist, violent and criminal content, which would not be well-received offline;

Identify potential participants and provide them with information about ‘the cause’ and the groups involved in defending it (Busher, 2015);

Deliver massive publicity for acts of violence and enhancing a perception of strength (Wright, 2008);

Provide several opportunities for participation in online and offline activities (Bowman-Grieve, 2009);

Produce false information using the fact that all types of information on the Internet can be displayed on an equal footing, which can provide an illusion of credibility and legitimacy to extremist narratives (Bhui & Ibrahim, 2013);

Facilitate the further process of radicalization post-recruitment, though tactical learning, exploiting confirmation biases (which confirm and amplify people's previous opinions), gathering data and planning attacks (Busher, 2015);

Establish a 24-hour intimate communication that aims at developing relations of complicity and friendship, via networks like Twitter, Facebook, Snapchat that are heavily used by terrorist recruiters;

Foster one-on-one dialogue with young people, so as to isolate the young person at-risk and gradually induct him or her into a new “brotherhood” with violent extremist ideas creating strong interpersonal bonds (Busher, 2015);

Severe offline social ties and replace with online or new offline ties from the extremist group to shape conceptions and inhibit disengagement (Busher, 2015).

3.3.2 The processes of Internet and social media usage

While versions of religion provide a particular narrative, there are more general patterns of violent radicalization that are identified in the literature. Weinmann describes extremist groups’ use of Internet and social media in eight process strategies: “psychological warfare, publicity and propaganda, data mining, fund raising, recruitment and mobilization, networking, information sharing and planning and coordination” (Weimann, 2004). Conway identifies five-core terrorist uses of the Internet and social media: “information provision, financing, networking, recruitment and information gathering”. The ones most relevant to social media and radicalization of young people are information provision, such as profiles of leaders, manifestos, publicity and propaganda, and recruitment (Conway, 2006). Some studies show that social media enable people to isolate themselves in an ideological niche by seeking and consuming only information consistent with their views (i.e. confirmation bias) (Mohamed, 2007; Warner, 2010), as well as simultaneously self-identifying with geographically distant international groups of international which, therefore, creates a sense of community beyond borders. This ability to communicate can promote membership and identity quests faster and in more efficient ways than in the “real” social world.
While recruitment is a process, and not instantaneous, it is seen in the literature as a phase of radicalization, taking the process to a new level of identification and possible action. Thus, indoctrination is easier post-recruitment and often occurs in specific virtual spaces where the extremist rhetoric is characterized by a clear distinction between “them” (described negatively) and “us” (described positively), and where violent actions are legitimized according to the principle of “no other option available” (Meddaugh & Kay, 2009; Vergani, 2014). These advantages of Internet and social media open up prospects for extremist groups, by facilitating what used to be referred previously as block recruitment (Oberschall, 1973) and by substituting group decision to individual decision-making (Busher, 2015).

3.3.3 The gender issues in religious violent radicalization

In spite of the growing presence of radicalized women online, the number of articles devoted to gender and radicalization on social media is very low (English publications 1% – French publications 2%). One possible explanation may stem from the fact that many women cloak their female identity online, because of a masculinist bias (Bermingham et al., 2009), making them impossible to identify. Secondly, male academics appear to dominate the empirical research field, particularly in some regions. Their research interests seem to be geared to issues of geopolitics and international relations and take little into account the issue of gender or gendered identities.

One identified trend is a feminist claim of women coming forward to take their place in the fighting, which coincides with a structured use of communication processes by terrorist groups to recruit them. Indeed, recruiters seem to use the rise of Islamic feminist which involves a reading of the texts centered on absolute equality (al-Musawa) between all human beings as a religious principle, in order to recruit females on the Internet. There is very little research offering a good overview of this particular gender issue, but some useful sources in this regard include: Pearsons’ (2016) analysis of the case of Roshonara Choudhry; “Daesh: Inside the Army of Terror” (Weiss & Hassan, 2015); “Paris: the war DAESH wants” (Atran & Hamid, 2015); “Bride of Daesh: One Young Woman’s Path in Homegrown Terrorism” (Speckhard, 2015) and “Femmes de djihadistes” (Suc, 2016). Some reports also discuss the case of European women joining ISIS such as “Becoming Mulan? Female Western Migrants to Daesh” (Hoyle, Bradford & Frenett, 2015).

Such research, especially when it comes from women researchers, shows that, far from romanticism or victimization, women are serious candidates for violent radicalization (≈30% departures to Syria/Iraq war zones) (Von Knop, 2007). This is studied in terms of a search for emancipation as (Muslim) women (Casutt, 2016), with gender-specific expectations of empowerment that do not coincide with the Western understanding of female emancipation (Boubekeur, 2005). The research notes active peer-to-peer support to ‘newcomers’ via ‘sisterhoods’ (community, sense of belonging) and promotion of specific female honor (Asquith, 2015) as supporting wives/mothers. Such radicalization may, according to one writer, contribute on the long run to shaping a revenge-seeking, military-trained next generation – a dynamic that has led in other regions to insuperable conflicts (Kneip, 2016).
Online recruitment functions differently at a distance and reshuffles the roles of men and women alike. Internet allows women to move out of relative invisibility, without crossing the limits drawn by their ideology (Hussein, 2016). For example, Jihadist forums are often segregated on the basis of gender. This may induce women to participate online and manage their (in)visibility, while dissimulating their identity, often through jihadists qualifiers of “Umm” (mother; e.g., Umm al Soumayya muhajira, Umm Omar al firansiya, etc). The jihadi woman or muhajirat figure is increasingly valued across social media and women use this image in recruiting missions, acting to convince other women. This heroic and active vision of women is strongly present in social networks and aims at reducing the negative perception that Western women could have of the ideology of ISIS on women and their roles. Their integration into the radicalized ideologies (as creators of the new generation respectful of the true faith and generators of the Caliphate), as well as their involvement in the field of moral police has turned women into a key target in the creation of the ‘Islamic State’ and its viability (Hoyle et al., 2015). This status grants them a higher position in the social hierarchy of the ‘Caliphate,’ making them into super-muslim women (Hussein, 2016).

Although there may be a gender based distribution of tasks (e.g. especially where participation in combat is involved), this distinction does not apply when it comes to embracing the radical ideology of, or the legitimation of, violent attacks, as shown in the research dealing with analysis of female jihadist discourse in the ranks of ISIS. These reports reveal that women recognize the same truths and accept the same rules of compliance validated by the doctrine as compared to their male counterparts (Hussein, 2016). They wage the war of ideas for traditions like the hijab (headscarf or veil) with a discourse that can at times be fundamentalist and warlike (Küng, 2004). When they are radicalized, women may appear more indoctrinated than men and more prone to encourage political violence (Bermingham et al, 2009).

At the same time as a modicum of attention has been by researchers to the radicalization of women under a religious rationale, even less attention has been given to the construction of masculinity within the same violent radicalization processes.

3.4 Internet, social media and extreme right-wing and left-wing political radicalization

Right-wing extremism is an old phenomenon but on the rise again in many parts of Europe and North America. There is a body of research on extreme right movements that takes into account the different national and cultural settings. However, little has addressed their use of Internet and social media, other than advancing the hypothesis that Internet and social media are also present in violent radicalization of the extreme right (Berger, 2015; 2016) or in so-called “lone actors” (Dickson, 2015; Mouras, 2015). As for left wing violent extremism, it has been associated with lower frequency of offline and online violence, and only one empirical study in academic journals (and no report) could be found that addressed the role of left wing extremism and online radicalization (Biddle, 2015).

Some reports show that extreme right-wing groups take advantage of the freedom of speech guaranteed by many countries’ legislations (Dagnes, 2003), to post hateful comments that
however do not represent full hate-speech or illegal acts (Barnett, 2005; Pollock, 2006). Furthermore, these groups seem to mobilize efforts on Internet and social media to convey a more acceptable public image and recruit new members who would otherwise be offended by blatantly racist or hate-based discourse (Gerstenfeld, Grant & Chau-Pu, 2003; Schafer, Mullins & Box, 2014; Schmitz, 2016; Simi & Futrell, 2006).

For example, the discourse found on Stormfront (an early supremacist website, launched in 1995) is particularly noteworthy because it clearly shows the transition towards a more “acceptable” form of racist discourse (Meddaugh & Kay, 2009). The discourses seem to be less aggressive, even condemning violence and refusing to resort to an incendiary rhetoric. Instead, the discourses that are posted use seemingly scientific or intellectual theories about racial differences, in a watered-down version of racist discourse, relying on apparently reliable sources of information that appeal to the general public. More specifically, the racist discourses used by Stormfront relies on a “us” vs. “them” rhetoric, portraying them or ‘the other’ in five ways as: a) tyrannical (submits white people to rules and laws that serve him, e.g., Jews control the media and the economy); b) manipulator (uses deceit to achieve aims, e.g., brainwashing children with pro-black school programs); c) genocidal (e.g., multiculturalism and interracial marriage are seen as ways to eradicate the white race); d) inferior (e.g., less capacities than white people); and e) a false martyr (e.g., manipulates history to be seen as a victim) (Meddaugh & Kay, 2009).

Countering the theory of fragmentation of electronic media (in which each person is locked up in a niche media which corresponds to his/her own personal interests), some authors argue that cyberspace is helping to create a strong extreme right-wing collective identity and a sense of belonging to a global scale via a process of networking, sharing of information (values, symbols and fears, not just facts), discussion, recruitment and event organization, in similar ways to religious extremist movements (Alava, 2014; Bowman-Grieve 2009; Caiani Parenti, 2011; Cheng, 2012; Giorgiou, 2010). Exposure to extreme right-wing discourses also seems to lead to a significant radicalization of attitudes among certain individuals from diverse political affiliations (random distribution of participants in four experimental groups) (Biddle, 2015). Conversely, this was not the case for exposure to extreme left-wing discourses or exposure to moderate media and mixed media (control group), which generally resulted in a decrease of extremist attitudes (Biddle, 2015). However, some researchers argue that spreading the message to a bigger audience and inspiring violence can make the recruitment easier, but there is no evidence that it leads to a full process of violent radicalization or actual acts of violence being committed (Levin, 2002).

A few reports show that Internet has served extreme right-wing groups in many ways, enabling them to:

- Disseminate hate speech and propaganda (Gerstenfeld, Grant & Chau-Pu, 2003; Kaplan, Weinberg & Oleson, 2003; Schafer, Mullins & Box, 2014; Schmitz, 2016; Simi & Futrell, 2006);
- Come out of the margins and become mainstream by addressing the general public;
 desarrolla una sensación de comunidad y reúne a lo que se conoce como “actores solitarios” (Gerstenfeld, Grant & Chau-Pu, 2003; Kaplan, Weinberg & Oleson, 2003; Schafer, Mullins & Box, 2014; Schmitz, 2016; Simi & Futrell, 2006);

- Lleva recursos a los miembros actuales y alaba los métodos violentos (Kaplan, Weinberg & Oleson, 2003);

- Proporciona la oportunidad a grupos supremacistas blancos dispersos, dedicados a la propaga- ción de la haine racial en los Estados Unidos y Europa, para converger y reunirse en un movimiento global (Parent & Ellis, 2016; Perry & Olsson, 2009; Koehler, 2015);

- Utiliza Internet para atraer el enojo antiguovernment entre el público estadounidense, y presentarse como patriotas y religiosos en el país (Dagnes, 2003);

- Aplica estrategias de marketing para atraer y reclutar jóvenes miembros (niños y adolescentes). Un estudio de diez sitios web extremistas derechos muestra que utilizan caricaturas (promedio de 18,7 ocurrencias en cada sitio), música (promedio de 21,7 ocurrencias en cada sitio), y videojuegos (cuatro sitios de cada uno, con un promedio de 1,6 videojuego por cada uno de estos cuatro sitios) para transmitir sus mensajes (Crabill, 2008);

- Utiliza el Twitter para coordinar ataques militantes (actualizaciones, fotos, identidad robada) (Weimann, 2010).

### 3.5 Recepción por usuarios e influencia en jóvenes

La investigación sobre recepción y influencia en jóvenes es muy limitada. La mayoría de los autores se centran en la recepción por usuarios que se autoidentifican como miembros de grupos violentos extremistas, y muy pocos realmente examinan los efectos de dicha propaganda en jóvenes de gran calibre. La mayoría de la investigación sobre el tema consiste en trabajos descriptivos sobre el perfil demográfico de los seguidores en línea de grupos extremistas, y las metodologías sufran las limitaciones relacionadas con la dificultad de extraer información sobre la edad, el género y la ubicación. El procedimiento usual es mirar chatrooms y videos de YouTube, y notar los perfiles de los usuarios y sus comentarios, clasificando a las personas como ‘soporte’, ‘crítico’, ‘niño’ o ‘imposible de determinar’ (Conway, 2008). Lo que estas investigaciones pueden decir es que los jóvenes son un público objetivo, que ya es un hecho establecido, con grupos de jóvenes desde los jóvenes de más de 13 (el legal de edad a ser en algunos de los medios sociales aunque es bien conocido que una parte importante de los niños están conectados), a los jóvenes de 13 a 18 o a jóvenes adultos entre 18 y 34 (Conway & McInerney, 2008).

Encontramos dos estudios empíricos sobre influencia en línea en jóvenes. Bouzar, Caupenne y Sulayman (2014) presentan los resultados de entrevistas con 160 familias francesas con niños radicalizados (aunque no violentos) de entre 15 y 21. La mayoría de los jóvenes afirmaron haber sido radicalizados a través de la Internet, y esto fue el caso
regardless of their family characteristics and dynamics. The vast majority of the families (80%) did not follow any specific religious beliefs or practices and only 16% belonged to the working class (Bouzar, Caupenne & Sulayman, 2014). At the same time, it is unclear how such broad findings compare to offline and online peer-group communications which the surveyed youth may have sought to conceal. The role of socio-political factors, as distinct from the influence of the Internet, is also an issue that calls into question the claims of the surveyed youth.

Wojcieszak (2010) analysed cross-sectional and textual data obtained from respondents in neo-Nazi online discussion forums. The author found that extremism increases with increased online participation, probably as a result of the informational and normative influences within the online groups. In addition, exposure to different parties/views offline that are dissimilar to the extremist group's values has in some instances reinforced radical beliefs online (Wojcieszak, 2010).

Many authors hypothesize potential causation by associating online radicalization with external factors. The often-cited hypotheses refer to commonly known external factors and social grievances and internal psychological factors in the theoretical literature such as: search for identity and meaning, the growing inequalities in European and other societies, unemployment and fewer opportunities for development especially for minority youth, exclusion, discrimination and inequality that are massively used in extremist discourses (e.g., ATHENA report, 2015; Schils, 2013; Umar & Mustapha, 2015). But again, none have empirically tested the hypothesized associations.

Grey literature reports have sought to describe phases involved in online radicalization, mostly based on case studies. They present a multistep process. Step 1 is often referred to as “The net” where a whole population is targeted as a goal for exposure to extremist discourse; Step 2 is a “funnel” approach where attracted members from “the net” are turned into dedicated members by social bonding, discussion and exposure; they then move along to Step 3 often referred to as the “infection” where selected targets are directed to self-radicalization through exposure to radical material and guidance, finally leading them to Step 4 of “activation”, where the young person is ready to receive indirect commands from the recruiters (Weimann, 2015). Again, there is no empirical data to support the validity of the multistep hypothesis.

This view of phases follows what social psychologists call the “foot-in-the-door strategy” (Freedman & Fraser, 1966) where young people enter the extremist group by being asked to perform first-step small and non-costly actions followed by second-step actions that become increasingly important and which “commit” them to the course of action (“escalation of commitment”; Kiesler, 1971; Staw, 1976). First contacts are thus rarely focused on violence, and rather tend to present images of strength and pride. The contacts also present invitations to select chat groups where membership is reserved to a select few, which may often be an efficient strategy given that many recruits manifest strong motivation to belong to a select group. Joining the group has however its rituals, which serve to consolidate the transition. Such rituals consist in asking the young person to do tasks to prove his/her loyalty, such as sending propaganda emails to friends, writing inflammatory statements on discussion forums or contributing to online fundraising. In exchange, the recruit receives access to
websites with sensitive information (use of weapons, explosives manufacturing, etc.) (Alarid, 2016; Homeland Security Institute, 2009; Scott & Podder, 2015; Weinmann, 2015). These qualitative studies are based on analyses of the paths of radicalized young people who have fought with ISIS. At the same time, generalizing from this research to create generic phase models have been criticized for being overly linear and for prompting profiling without due process (Malik, 2016).
4.1 A recent field on the rise

Arabic research on radicalization and social media is recent and mostly descriptive (grey literature, press articles or semi-academic texts) for several reasons. On one hand, the majority of works on violent radicalization focus on the historical, political and religious genesis of the violent jihadist ideologies (Abu Haniyya, & Roummane, 2015; Chqayr, 2014; Al-Khatib, 2014; Hassan, 2015), the sociological profiles of its adherents (El-Haj Salem, 2015) and its propaganda (Abdel-Fattah, 2014; Makram, 2015; Ben Ahmed Ar-Ramih, 2015). On the other hand, the extended use of social media by violent radical groups, particularly ISIS, is recent, dating to 2010. Finally, this research remains limited because most of it is not based on a scientific approach, and it lacks a clear theoretical basis as well as established research methods that are applied to analysis of specific empirical situations.

Recently, several initiatives have been launched such as the organization of an international conference on the theme of media and terrorism organized in November 2016 by the Faculty of Information and Communication Sciences of King Khaled University in Saudi Arabia. In September 2016, a group of research centers including the Emirates Center for Strategic Studies and Research in the United Arab Emirates, the Issa Cultural Center in Bahrain and the Royal Institute for Strategic Studies in Rabat launched “Tahallof’Asifat al-Fikr” (Coalition for brainstorm). This coalition aims at enhancing regional cooperation in the area of research and the fight against terrorism and violence, although it is not yet clear to what extent this will be based on empirical research and testing. One of its main purposes is to develop a counter-discourse media policy.

4.2 Research on violent radicalization in the Arab world, as a new geopolitical issue

The analysis of the evolution of research on violent radicalization in the Arab world and the logics that underpin it follows the geopolitical strategies of the major political forces in this region. The evolution of research on violent radicalization in the Arab world has contributed to the rise of a number of experts and specialists, especially from the Middle East. Research on terrorism, extremism and violent radicalization is linked to these countries’ ongoing conflicts and security politics and in a more intense fashion in the aftermath of 9/11. Since
2001, Gulf countries such as Saudi Arabia have been developing a research strategy and several measures against terrorism and violent radicalization. In 2004, Saudi Arabia launched its first digital campaign in the fight against terrorism under the title Al-Sakina (tranquility). This initiative, with the cooperation of the United States, is part of one of the most expensive and longest international counter-radicalization program in the world. In this context, Saudi Arabia, research centers, intellectuals and/or religious figures are increasingly taking part in this rising research trend. Since 2004, King Faisal Centre for Research and Islamic Studies (founded in 1983) and King Saud University have published three reports relevant to radicalization and social media (“A vision on the concept of terrorism and the position of Islam” by Abderrahmane bin Sulaiman al-Matroudi; “Terror propaganda: Daesh's media and operating strategies” by Mohammad El Araby; “The invisible powers of Daesh in new media” by Abderrahmane al-Qahtani and Abderrahmane al-'Abisi). The reports are based on a transversal analysis of ISIS media strategy and its use of social networks to attract Saudi youth as well as to finance terrorist acts. Results show how ISIS uses computer technicians for hacking email addresses in order to spy for terrorist purposes and how the group also uses social networks to spread its ideology, recruit new sympathizers, and coordinate the tasks and missions of each terrorist member with coded language, among other things.

Meanwhile, Qatar’s Al-Jazeera Center for Studies – a research unit created in 2006 and dependent on the media network Al-Jazeera – is increasingly publishing reports on violent radicalization since the Syrian crisis. Between 2014 and 2016, the center published dozens of studies and reports. These studies and reports deal mainly with the themes of the ISIS genesis, its structure (Abu Haniyya, 2014; Abou Roummane, 2014), its ideology (Shams, 2016), its military capabilities (Achour, 2016) and the sociological profiles of its sympathizers (El-Amine, 2014). The center also has links to Arabic-speaking researchers particularly from the Maghreb working on the phenomenon of violent radicalization including Benissa al-Demni and Mahmoud Abdel-Wahid.

In July 2015, Egypt’s Al-Azhar launched “the Observatory of Al-Azhar in foreign languages” (http://www.azhar.eg/) as one of the largest databases on Islam and Muslims in the world and on violent radical ideologies. The Observatory publishes reports and articles in eight languages: Arabic, French, English, German, Urdu, Swahili, Persian and Chinese and seeks to develop counter-narratives to violent radicalization. This corpus consists of hundreds of daily, weekly and monthly reports. The Al-Azhar Observatory includes a team of several multi-disciplinary researchers to decipher the phenomenon of violent radicalization through transversal approaches particularly from the media angle. In December 2015, the Observatory published a report on “The use of social networks by Daesh” providing an analysis of the images and the texts of ISIS’s media propaganda. The report shows the centrality of social networks in ISIS recruitment strategy. Ousama Nabil, head of the French section and director of the observatory, has published many other reports on the engagement of adolescent girls in ISIS, its strategy in Libya, and its strategy of training new generations of combatants.

A number of experts are on the rise in Jordan, Lebanon, and Iraq (e.g., Hassan Abu Hania and Mohammed abu Roummane from Jordan; Abdel-Ghani Imad and Hazem el-Amine from Lebanon; Hisham al-Hashimi from Iraq). Al-Hashimi, al-Amine, abu Haniyya, and abu Roummane have become leaders of this new field in the Arab world, often appearing
on satellite channels to provide information and expertise on violent jihadism. Despite their importance in understanding radicalization in the Arab world, these works offer few elements based on empirical research about online radicalization.

Within the Maghreb countries, Algeria has been producing literature on terrorism since 2000 – following the increase in violent extremism in the country early 1990. The initiatives did not, however, lead to the development of a national research strategy, or to the rise of research networks. Nevertheless, some specialists in Islamist movements such as the Moroccan sociologist Abdallah al-Rami, Tunisian Abdellatif Hannachi (historian) and Abdel-Sattar al-Aydi (researcher and journalist) and the Algerian Fawzi Hawamdi have been actively contributing to the public debate on violent radicalization in particular through press interviews or on national audiovisual media.

While the research field remains male-dominated, we have identified a group of female researchers working on the topic such as the Egyptians Amal Mokhtar and Rania Makram (Al-Ahram Center for Political and Strategic Studies), Mariam Wahid (The Arab Center for Research and Studies), Riham al-Abbasi (The Arab Centre for Democratic and economic studies and strategic policies) and Noura Bendari Abdel Hamid Fayed (The Democratic Arabic Center for Strategic, Political and Economic Studies). They are particularly interested in the study of the relationship between violent radicalization and social media through the analysis of radical discourses, and the role of new media in the recruitment of youth. Some groups of female researchers interested in examining women’s roles are on the rise, particularly in Egypt, at the Al-Ahram Centre for political strategies and at the Democratic Arabic Centre for Strategic, Political and Economic Studies. They analyze radical discourse and the role of new media in recruiting young people (Mokhtar, 2015; Wahid, 2015; Makram 2015; Al Abbasi, 2016). More details are provided in Appendix 2 on the results of mapping and review of studies from the Arab and Muslim world specifically. Reports published by these researchers show how online social networks, including Facebook, YouTube and Twitter, have become a weapon of war in ISIS’s military strategy, not only to recruit new sympathizers but also to extend its relational network. Finally, the researchers highlight the presence of a media strategy established by ISIS.

These research results contribute to an understanding of radicalization online, but suffer from a major methodological weakness because they are, for the most part, the results of a personal reflection on the subject and there is little empirical work. Worth mentioning, nevertheless, is the study by Samah Abdel-Sabour on the uses of social networks by the armed groups (2014). The study argues that the intensive use of social networks by armed groups requires the security services to review their policies with regard to these new threats to national security. Overall, despite the number of reports published by the Arab research centers, none of them empirically assesses the issue of real effects of online ISIS strategies on actual violent radicalization of youth.
4.3 Violent radicalization or terrorism: who says what in the Arab world?

The analysis of the profiles of researchers and publications on violent radicalization from the Arab world reveals the prominence of specialists on Islamist movements. They are, most often, humanities and social science researchers and some are specialists in media and public opinion, international relations, or even security. Another specificity of research on violent radicalization in the Arabic-speaking region is the involvement of religious researchers in this field mainly from the Gulf countries. The main objective of this contribution is part of a state strategy to counter faith advocated by violent radical groups. In this logic, radicalization or jihadism are replaced by the term terrorist in referral to these groups. In other regions, experts use terms such as jihadist Salafism or jihadism or violent radicalization. There is a clear tendency among most Arabic-speaking researchers to avoid the use of the word Islam and its semantic field to denote violent radical groups. This is also why researchers from the region prefer to use the Arabic acronym Daesh or the State Organization instead of the ‘Islamic State.’

Most research published from the Arab world does not focus on the relation between violent radicalization and Internet or social media, nor does it evaluate the effect of prevention or intervention cyberinitiatives. The contribution of Arab researchers is however unique and raises issues of definition and conceptualization of the phenomenon of violent radicalization, as well as informs on its perception among the population of the region. In addition, the Arabic research on violent radicalization is broadly characterized, unlike in North America and Europe, by its avoidance of the paradigm of mental manipulation or indoctrination. Research in the Arab world is rather grounded in a historical-political and social approach for understanding the genesis of violent radicalization. The majority of Arab researchers use a macro-level perspective to study and conceptualize violent radicalization as the result of political social and economic crises crossing the region including the US invasion in Iraq and the sectarian conflicts in Iraq and Syria, as well as the Arab Spring, and Western and other foreign policy vis-à-vis these crises.

A significant number of studies from the Arab world focuses on profiles and individual trajectories of theorists and leaders of a particular version of jihad as well as sympathizers and supporters of radical ideologies. These works are based on a framework of choice or foreign influence rather than on individual indoctrination.

4.4 Arab youth activism against violent radicalization through social media

Arab youth are major consumers of social media networks and especially Facebook, which is one of the top ten most used sites by Arab Internet users, a tendency that quickly found its translation into the Arab political realm (Gonzalez-Quijano, 2012). According to a study by Mohamed Ibn Rachid Faculty for governance in the United Arab Emirates, the number of Facebook users in 22 Arab countries increased from 54.5 million in 2013 to 81.3 million in 2014 with a majority being young people. The study of literature in the region reveals the
role played by social networks, especially Facebook and Twitter, as platforms for collective expression for Arab youth on current issues, conflicts and wars (e.g., Gaza situation in particular) (Salem, Mourtada & Alshaer, 2014).

In Iraq, for example, young Internet users and bloggers launched several campaigns on Facebook and Twitter at the beginning of military operations to free the major cities occupied by ISIS (Fallujah and Mosul). In Morocco, other initiatives with the same objective were launched such as the one by Hamzah al-Zabadi on Facebook (ةبراغم دض #; # شعاد_مغاربة_لض_الدول; # شعادMoroccans against Daesh), which consisted of sharing all kinds of content (images, texts, etc.) to contradict and challenge ISIS’s narratives. The involvement of civil society actors on the web in the fight against terrorism and violent radicalization in the Arab region remains modest for many reasons including the lack of media policies dedicated to this struggle. The literature surveyed does not delve into the issues of impact of counter-content.

4.5 Research emerging in Africa

There is little contemporary research on online radicalization in Sub-Saharan Africa. Yet Africa carries at its heart a powerful extremist group: “Boko Haram” whose real name is Jama’atu Ahlu-Sunna wal Jihad Adda’wa Li («Group of the People of Sunnah for Preaching and Jihad») since 2002 and has recently pledged allegiance to the Daesh.

The network is less resourceful and financed compared to Daesh, but it seems to have entered in a new era of communication by the use of social media networks, more so since its allegiance to Daesh (Ould el-Amir, 2015). To spread their principles this terrorist group uses the Internet and adapts Daesh communication strategies to the sub-Saharan African context to spread its propaganda (also in French and English) with more sophisticated videos.

By its presence on the most used digital networks (Twitter, Instagram), Boko Haram breaks with traditional forms of communication in the region such as propaganda videos sent to agencies on flash drives or CD-ROM (Olivier, 2015). Video content analyses has also shown a major shift from long monologues from the leader Abubakar Shekau, that had poor editing and translation, to messages and videos that have increased its attractiveness among sub-Saharan youth. Today, Boko-Haram owns a real communications agency called «al-Urwa Wuqta» (literally «the most trustworthy», «the most reliable way»).

Moreover, the group multiplies its activities on Twitter especially via their smartphones, as well as through YouTube news channels. Most tweets and comments of the group’s supporters denounce the Nigerian government and call for support for Boko Haram movement. The tweets are written in Arabic at first and then translated and passed on in English and French, which reflect the group's desire to place itself in the context of what it sees as global jihad. In a recent study conducted in 2015, researchers have shown how Boko Haram related tweets include rejection of the movement by non-members of the organisation (Varin, 2015).
ROLE OF SOCIAL MEDIA IN THE VIOLENT RADICALIZATION OF YOUTH IN ASIA

With the rapid growth of Internet and social networks in cyberspace, online radicalization has become a worldwide issue, especially in Asia.

Online radicalization in Asia can be analyzed according to four geographic areas, namely Central Asia, South Asia, Southeast Asia and East Asia. Central Asia refers to Uzbekistan, Turkmenistan, Kazakhstan, Kyrgyzstan and Tajikistan. South Asia is represented by Pakistan, India and Bangladesh. Southeast Asia mainly includes Indonesia, Philippines, Thailand, Malaysia and Vietnam, while China, Japan and South Korea represent East Asia. We will focus in this section on the countries that meet the following criteria: a) are among the top 10 Internet users in Asia with manifest online problems, b) are top on the list of countries affected by terrorism or violent extremism (NCTC, 2015).

5.1 Different forms of violent radicalization and their manifestations in Asia

Asia includes five among the top ten countries most affected by terrorism worldwide. Afghanistan, Pakistan and India rank among the top five, with respectively 1708, 1009 and 791 attacks by 2015. The November 2008 attack in Mumbai sparked terrorism studies in the region (Smith, 2013).

Research on radicalization in Asia clearly distinguishes between radicalization, terrorism and the Islamic faith (Tadjbakhsh, 2015; Heathershaw & Montgomery, 2014). The literature from Asia identifies three types of radicalization depending on the different motivations and causes. Although such causes and motivations are diverse and with a certain amount of overlap among them, the research points to differentiated types, according to country and context (Khalid & Leghari, 2014; Tadjbakhsh, 2015), as described below.

5.1.1 Politically-driven radicalization

Radicalization with political purpose is present in a particular set of Asian countries. For example, in Central Asia and China, radicalization as a phenomenon is linked to what is rhetorically referred to as the “Three Evils” (Wu, 2002; Yang, 2014; Li & Zhao, 2015). These are: terrorism, separatism and extremism (“Shanghai Convention on Combating Terrorism, Separatism, and Extremism”, 2001 signed by six leaders of the member countries of Shanghai Cooperation Organization [SCO], which are China, Kazakhstan, Kyrgyz Republic, Russian
Federation, Tajikistan and Uzbekistan). Separatism is considered as a form of radicalization in this region due to the fact that several political groups have separatist demands, many in connection with Islam (Tadjbakhsh, 2015) (e.g., the Sunni separatist groups in Iran, the East Turkestan Islamic Movement ETIM and their purported influence in Uyghur populations living in the Xinjiang Uyghur Autonomous Region in China, and groups of Chechens in the North Caucasus in Russia).

In Asian countries, political radicalization seems to be region-specific. It is localized and internal despite its direct or indirect links with external and trans-border groups. For example, the ETIM is considered as a terrorist organization in China. In the Autonomous Region in Muslim Mindanao province various groups promote political independence, which is identified as Muslim separatism in the Philippines (Lidasan, 2015).

5.1.2 Religious radicalization

In central and South Asia, this process has been studied more closely since the 1990s and the collapse of the Soviet Union. More than 80 per cent of the total population of the five Central Asian countries are Muslims, and the predominant religion in Central Asia, including Pakistan and Afghanistan is Islam (Pu Shi Institute for Social Science, 2015). Though other forms of religious radicalization exist, with regard to Hindu or Buddhist extremism in the region, most research on violent radicalization in Central Asia and South Asia deals with violent extremism claiming a version of Islam, including in China and the Xinjiang region (Karmon, 2009; Sun, 2010; Li, Zhao, 2015). The reality however speaks to the phenomenon differently. For instance, India, which has a high number of Muslims (140 millions), barely witnesses violent extremism based on a religious rationale and though there have been instances of organized jihadist terror activities, India has proportionately been a source of very few foreign ISIS fighters (Krishnamurthy, 2015). Further, religious radicalization in South Asia, with Islamic republics such as Afghanistan and Pakistan, does not present evident regional differences as compared to radicalization in other “secular” or multi-religious countries of the region such as India or the Philippines.

5.1.3 Psychosocial and socio-economic radicalization

Researchers in Asia have developed a complex understanding of radicalization as being deeply connected to psychosocial and economic grievances such as poverty and unemployment (Khalid, & Leghari 2014; Tadjbakhsh, 2015), marginalization through illiteracy and lack of education (Tadjbakhsh, 2015), as well as admiration for charismatic leaders, pursuit of social acceptability and psychological trauma. These factors are considered by authors to facilitate online radicalization-oriented recruitment, especially among young people, who are more vulnerable and who spend more time online.
5.2 Radicalization and social media in Asia

A report by "We Are Social" in 2016 reveals that East Asia and Southeast Asia are the first and second social media markets worldwide, with North America in the third rank. According to the same report, Facebook and Facebook Messenger are the predominant social and communications tools, followed by Twitter, Line and Skype. China is the notable exception as Facebook Messenger is outpaced by far by Chinese social media tools.

We found no scientific literature on Internet and social media in relation to violent radicalization in the Asian countries (and written in English, French, Arabic, Spanish or Chinese) with the exception of China and Indonesia.

China presents a very different profile from most countries in its mainstream social media and networks. American platforms such as Google, Yahoo! Facebook, Twitter and YouTube have very little penetration due to state restrictions and the strong monopoly of homegrown search engines and Internet platforms in Chinese language. Baidu is the dominant search engine with similar functions to those of Google. Sina Weibo (which means “micro blog” in Chinese), QQ, and Weixin (called Wechat for overseas users), are the most popular social networking platforms and online communication tools. These social media platforms include similar functions to Facebook and Twitter. The Chinese are heavy users of social media platforms with 282 million Monthly Active Users (MAU) of Sina Weibo, 250 million for MAU of QQ, and a combined MAU of Weixin and WeChat of 846 million.

There is rising interest among Chinese researchers in examining the dialectical relationship between social media and violent radicalization (Tang, 2013). Most publications by Chinese scholars are in Chinese language with Chinese specific terms, so there is a limited availability to the international community of foreign language readers, scholars or researchers. The most prominent research centers are: Chinese Academy of Social Sciences (CASS) Research Centers for Russia; Eastern Europe and Central Asia; CASS Institute of World Religions; CASS National Institute of International Strategy.

Research into violent radicalization or terrorism in China is mainly on radicalization in Xinjiang. This could be linked to the fact that most of the recent terrorist attacks in China were not perpetrated by local residents, but by outsider violent extremist organizations that seek to separate the Xinjiang area from China (Feng, 2009; Li & Zhao; 2015; Zhang, 2013). Terrorist organizations spread their messages via TV, radio and the Internet (Wo, 2016). Though there is no empirical evidence linking youth radicalization to online social media, the anonymity and transborder capacity of such media is seen as a support for organized terrorist propaganda (Du, 2016; Long, 2016; Sun, 2014).

The Chinese government has been responding to terrorist attacks by taking down sites, blocking and filtering content. In return, Chinese government also uses the social media for messaging against terrorism (Liu, 2016).

Indonesia has an estimated 76 million Indonesians who connect regularly on Facebook, establishing the nation as the fourth largest user of the world, after India, the United States and Brazil. Indonesia is also the fifth largest user of Twitter, after the United States, Brazil, Japan and the United Kingdom.
The Institute for Policy Analysis of Conflict (IPAC) examines how Indonesian extremists use Facebook, Twitter and various mobile phone applications such as WhatsApp and Telegram. In recent research, Lefevre (2014) shows that the use of social media in Indonesia by extremists is progressing. They use social media, such as Facebook and Twitter, to communicate with young people, to train and to fundraise online. Recruitment is done through online games, propaganda videos on YouTube and calls to purchase weapons. The proliferation of ISIS propaganda via individual Twitter accounts has raised concerns about the possibility of “lone actor” attacks. That being said, the report points out that such attacks are extremely rare in Indonesia.
Though there is no direct causality implied, the results of the literature review suggest that social media are part of correlated factors that, in combination with other social and psychological factors, may facilitate the radicalization process. Several online prevention initiatives exist and they fall into two main categories:

(a) Alternative/counter narratives and
(b) Media and Information Literacy (MIL). The literature is lacking about evidence of impact of such use of social media, and what studies exist are primarily about the global North, highlighting a relative lack of initiatives and related research in most regions of the world.

6.1 Alternative narratives

Some authors suggest that the most promising mode of intervention is to stand up to extremist rhetoric with alternative narratives that challenge the extremist narratives. There is however little consensus or evidence in literature that this would be effective in countering violent radicalization. However, some recent research suggests that counter/alternative narratives could be a promising strategy in prevention (Van Eerten, Doosje, Konijn, De Graaf, & De Goede, in press, 2017). There is also little consensus or evidence on what would constitute the best alternative narrative discourse. Some for instance argue that a strong alternative narrative to violent jihadist groups is to convey the message that they mostly harm Muslims (Archetti, 2012; Cornish, Lindley-French & York, 2011; Corman, 2011; Stevens & Neumann, 2009).

No studies were found which examine the extent to which credible news reports either disrupt or are co-opted into narratives of extremist violence.

Although numerous counter-narrative and alternative-narrative initiatives are being undertaken, there currently are no empirical studies on whether these are efficient prevention measures as regards online violent radicalization. Indeed, the use of counter-narratives is currently highly contested as being potentially counter-productive although here again systematic research is lacking (Harris-Hogan, 2016).
During the last decade, the US government has set up two online programs against radicalization designed to counter anti-American propaganda and misinformation from al-Qaeda or the Islamic state. These programs seek to win the “war of ideas” by countering self-styled jihadist rhetoric. Studies show that these programs, in the US and other countries as well, have a serious credibility gap (Archetti, 2012; Cornish, Lindley-French & York, 2011; Corman, 2011; Stevens & Neumann, 2009). Western participation in wars and bombing of civilians, arbitrary detention, torture, etc., is used by ISIS and others to create an image of hypocrisy, duplicity and propaganda that may undermine counter-narratives and serve to exacerbate resentment in the Muslim world toward the US or other Western countries.

There is also still a need to study private sector counter-initiatives which are less propagandistic in nature. Amongst such initiatives are the YouTube Creators for Change with young “ambassadors” mandated to “drive greater awareness and foster productive dialogue around social issues through content creation and speaking engagements”.9 Another is the “redirectmethod.org” pilot initiative to use search queries in order to direct vulnerable young people to online videos of citizen testimonies, on-the-ground reports, and religious debates that debunk narratives used for violent recruitment. The initiative avoids “government-produced content and newly or custom created material, using only existing and compelling YouTube content”.10

Consequently, several governments are opting to invest in primary prevention through education of the public at large, and of young public in particular, via various “innoculatory” tactics that can be grouped under the broad label of Media and Information Literacy (MIL). Based on knowledge about the use of MIL in other domains, this initiative can be seen, inter alia, as a long term comprehensive preventive strategy for reducing the appeal of violent radicalization (Earnhardt, 2014; Frau-Meigs, 2011). This is particularly apt for countries where censorship is not an acceptable as such measures are seen to risk producing chilling effects on online expression, participation and privacy. MIL is also relevant even for the countries that do operate strong restrictions on content, given that any conception of a ‘protectionist’ and ‘proscriptive’ solution misses out if it fails to address the issue of preparing young people to deal with a host of communications on- and offline that seek to mobilise them for political, gender, ideological or religious purposes.

6.2 MIL and critical thinking

MIL has a long tradition of dealing with harmful content and violent representations, including propaganda (Gerbner, 1998). In its early history, MIL was mostly put in place to fight misinformation (particularly in advertising) by developing critical skills about the media. By the 1980s, MIL also introduced cultural and creative skills to use the media in an empowering way, with active pedagogies (Hobbs & Jensen, 2009; Potter, 2013). Since the years 2000, MIL has enlarged the media definition to incorporate the Internet and social media, adding issues related to ethical uses of online media to the traditional debates over

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9 https://www.youtube.com/yt/creators-for-change/
10 https://redirectmethod.org/
harmful content and harmful behavior and aligning them more with the perspectives that consider issues of gratifications of media users.

UNESCO has accompanied this evolution since the 1980s. The Grünwald Declaration of 1982 is the first document in which Media Education is explicitly included in the UNESCO agenda, emphasizing the need for states to promote a critical understanding of media among their citizens. The 2011 Fez Declaration is another milestone, formalizing the expansion from Media Education to Media and Information Literacy (MIL). The 2014 Paris Declaration on “Media and Information Literacy in the Digital Era” acknowledged the digital shift and called for all stakeholders to recognize that MIL competences are part of the digital agenda, with a human rights ethical dimension. The creation of the Global Alliance for Partnerships in MIL (GAPMIL) further solidified the worldwide awareness raised on the topic. Since 2007, UNESCO has joined forces with the UN Alliance of Civilizations (UNAoC) to associate MIL with intercultural dialogue (including religious and interfaith exchanges) and work with migrants, refugees and young people in areas of conflict. UNESCO has been continuously developing its MIL programme that has many aspects, including designing MIL Policy and Strategy Guidelines dedicated for use by government and other stakeholders; a Media and Information Literacy Curriculum for Teachers, which has been designed in an international context, through an all-inclusive, non-prescriptive approach and with adaptation in mind; and the Global MIL Assessment Framework, which offers countries methodological guidance and practical tools through analysis of country readiness and competencies at different levels of society.

Increasing terrorist attacks have called attention to the need for more critical approaches to media via MIL and have added the issue of radicalization to the MIL agenda. It is high time to place MIL at the core of instruction at all levels of formal education, and it needs to be promoted in non-formal and informal educational settings as well. MIL can effectively contribute to enhancing intercultural dialogue, mutual understanding, peace, promote human rights, freedom of expression, and counter hate, radicalization and violent extremism. In fact, MIL is fundamental to producing knowledge for critical thinking, democratic citizenship, independent learning and good governance. In this context, UNESCO has launched the timely Media and Information Literacy and Intercultural Dialogue (MILID) Yearbook 2016, entitled “Reinforcing Human Rights, Countering Radicalization and Extremism”.

Terrorists targeting of journalists and media outlets such as Jyllands-Posten in Denmark and Charlie Hebdo in France have accelerated this process. In the aftermath of “Je suis Charlie”, the European region has produced three documents showing the change in public policies for MIL. The EU education ministers produced the Paris Declaration “on promoting citizenship and the common values of freedom, tolerance and non-discrimination through education” in March 2015. It lays the emphasis on preventing impact in terms of radicalization and propaganda and calls for cooperation at EU, national and local level. The Council of the European Union produced conclusions “on developing media literacy and critical thinking through education and training” in May 2016, which connect MIL and digital competence. This “encompasses the confident, creative and critical use of ICTs” which is posited as “a crucial component of media literacy”. The revised Directive on Audiovisual Media Services (adopted in 2017) contains an article on MIL and its importance
Young people are being exposed to hate and violent extremist content online both purposefully and accidentally (Grizzle & Perez Tornero, 2016). Social media is a dominant space of such exposure, along traditional spaces such as school, prisons, places of worship, and work. On the other hand, many young people recognize that MIL can help them to protect themselves as well as to counter hate, radical and extremist content online (ibid).

In this light, MIL has also been described as a strategy for “reducing demand for extremist content as a means to increase awareness of democracy, pluralism, and peaceful ideas for advancement” (Neumann, 2013). Many specialists in Europe and worldwide advocate for a multi-stakeholder approach to MIL, so that it is carried out in schools and outside schools, including families, and in relation to the media themselves, calling on the social responsibility of media and Internet platforms (Frau-Meigs & Torrent, 2009; Frau-Meigs & Hibbard, 2016). MIL provides an often-missing link with families, educators, and diverse sectors of government that often tend to work in isolation.

At this point in its evolution, MIL appears as a composite notion that has evolved from a pedagogical practice to a social right and a political project. The unified notion of MIL also highlights the importance of an understanding of MIL as fundamental to producing knowledge for democratic global citizenship, learning and good governance (Singh, 2016). As a political project, MIL aims to foster protection of young people from propaganda and harmful content as well as to enhance their participation as a means of maximizing the benefits of freedom of expression and information. As a pedagogical practice, MIL promotes a set of competences that aim to build citizenship participation and creativity as well as critical thinking. Integrally included in these is specifically digital literacy. As a social right, MIL is embedded in universal human rights such as freedom of expression, participation, privacy, security and cultural diversity (Frau-Meigs, 2017).

The last three decades have produced a significant amount of literature on MIL in terms of a specific set of critical competences (Feilitzen & Carlsson, 2004; Hobbs & Jensen, 2009; Frau-Meigs, 2011; Wilson et al., 2011), in terms of reflexive practices of social media in the information era (Buckingham, 2008; Hoechsmann & Poyntz, 2012; Livingstone et al., 2012; Serres, 2012), and in terms of public policies in an era of convergence (Frau-Meigs & Torrent, 2009; Grizzle et al., 2013; UNESCO, 2013; Celot, 2014; Frau-Meigs et al., 2017). A small subset of studies emphasizes the importance of MIL training of teachers and parents and educating them about the role of social networks and videogames. However, most research based on observations of young people (EU kids on line; Jenkins et al., 2009; Livingstone, 2012; Ito et al., 2009) tends to ignore the issue of violent radicalization and concentrates on their. The focus has also been on mainstream social media, like YouTube or Facebook, while more recent social media like Line or Periscope attract less attention.
6.3 MIL initiatives on radicalization, youth and social media

Several formal and informal MIL initiatives have been implemented worldwide based on MIL as a pedagogical practice with a specific set of competences that can deflect narratives of anger and revenge and/or self-realization through violent extremism. These initiatives aim at creating digital counter-narratives that are authentic and reflect youth perceptions of self and others, especially in terms of injustice, felt experiences of discrimination, corruption and abuse by security forces (Mercy Corps, 2015). In this regard, UNESCO and others have organized events about youth and with youth and journalists to consider how best to fight extremism and radicalization (2015). The need to sensitize young people to online freedoms became clear but also the need to train journalists in MIL and in the coverage of terror and extremism, so as to be aware of critical functions of their reportage.

The US State Department has organized several online seminars for Somali bloggers based in Canada, Africa, and Europe “to teach each other on how to improve their websites’ functionality and appearance while also reaching out to a wider audience” (Neumann, 2013).

Other programs target youth directly, on the premise that MIL can positively empower youth participation in the marginalization of extremism if not its containment (Cohen, 2015). The UNAOC has recently focused on youth in the MENA region, pushing MIL initiatives in Jordan and in Turkey. They also support action through the popular culture of young people to reach out to them in places such as Jordan and Kenya. UNESCO has launched an international competition called “PEACEapp” to promote games and apps as a venue for cultural exchange, conflict management and violence prevention. UNESCO has launched many MIL-related initiatives and projects with a focus on youth or taking youth into consideration, including the MIL CLICKS social media innovation, MIL capacity building for youth organizations, Global MIL Week, MIL in Jordan project, NETMED project in the Middle East which among other things empower youth with MIL competences for self-expression through media production and participation in social and political transformations. The organization has also supported research resulting in the resource Opporotunities for MIL in the Middle East and North Africa, as well as capacity on MIL as a tool for dialogue and tolerance through MIL Massive Open Online Courses (MOOCs) in English and Arabic.

In formal educational settings, the literature shows that online resources designed for teachers in a classroom-setting have tended to focus on debunking plot theory and radical propaganda on social networks. They expose rumours and fake news and encourage fact-

15 https://en.unesco.org/milclicks
18 http://fr.unesco.org/netmedyouth
19 https://elab.lms.athabascau.ca/login/index.php
20 http://milmooc.aub.edu.lb/
checking online. They do not address violent radicalization per se but they address the means of detecting extremist media content. Looking at the media themselves has always been part of media education that works on “authentic” sources. Articles about Inspire, Al-Qaeda’s digital magazine, can help debunk how the design and content is geared to indoctrination and serves as propaganda (Sivek, 2013; White, 2012). Teachers and young people are given resources that point out distortions of all sorts, from different perspectives. They can become aware of the media outreach strategies of extremist groups and protect themselves. Other initiatives use the participatory culture of the social networks to train youth about the Internet and its issues. The media lab at the university of Rhode Island has produced in 2016 a project called “Mind over Media” to train young people to recognize propaganda and debunk it. Under the aegis of Renee Hobbs, the project encourages contributions and commentaries by teachers and students.

There is some evidence that training in MIL is also expanding via MOOCs. Though there is not yet a MOOC fully dedicated to online violent radicalization, some existing MOOCs on MIL deal with it in their sessions and modules. This is the case for the European Union funded ECO project that aims at quality and cost-effectiveness teaching in the European digital agenda. Within the ECO portal, MOOC “DIY MIL” created in French and in English offers a session on values and human rights that addresses radicalization (Frau-Meigs & Blondeau, 2014-15). The ERASMUS+ MIL-based project ECFOLI offers a MOOC to train teachers and young people about conflict resolution and intercultural dialogue via media literacy, games and story-telling (Frau-Meigs & Blondeau, cited in Osuna et al., 2016). Beyond Europe, UNESCO, in partnership with Athabasca University’s chair on Open Educational Resources (Canada) and in cooperation with the Network on Media and Information Literacy and Intercultural Dialogue (MILID), launched a MOOC on “Media and Information Literacy for youth” in 2015.

Because the topic of youth radicalization in relation to social media is relatively new in MIL, research has not yet produced significant results. Several recent project calls have however been launched and field analysis results may be available in the next year. Three major research trends can be discerned that build on long term MIL issues. The first trend looks into the risks related to potential damaging effects of online media as examined via large programs such as the European “Safer Internet”. The second trend looks into the solutions that MIL can provide to prevent radicalization, such as identifying fake news, rumors and propaganda. A third and newer trend is related to the evaluation of the specifics of social media that foster the process of violent radicalization and facilitate recruitment, such as the “filter bubble” (Pariser, 2011) and the combined action of tracking algorithms and certain types of sharing and viewing that can seduce disaffiliated youth into looking for more and more radicalized content (Cardon and Granjon, 2014).

However, researchers interested in examining the effectiveness of MIL as a preventive measure regarding violent radicalization in the classroom or outside (e.g., in the community, with families) face numerous methodological challenges. Longitudinal designs are difficult

22 http://propaganda.mediaeducationlab.com/
23 https://www.ecolearning.eu
24 http://ecfoli.eu
25 http://elab.lms.athabascau.ca/
to implement due to the difficulty of creating valid indicators and the fact that radicalized youth are rarely part of the samples observed. The bottom-up emergence of good practices in MIL on this topic points to the importance of coordinated implementation among various types of stakeholders (Costa et al., 2017; Cappello & Chapman, 2016). In addition, there are no validated tools for cross-country comparisons and robust methodological techniques attendant to them. These gaps point to the need for research to provide multi-disciplinary perspectives to bridge the existing gaps in knowledge about MIL’s effective contribution to competences, evaluation and training.
The current state of evidence on the link between Internet, social media and violent radicalization is very limited and still inconclusive, and particularly so in the field of information and communication sciences as compared to other disciplines (history, sociology, psychology). Most of the reviewed academic studies and grey literature research and reports from specialized agencies that look into the role of Internet and social media remain predominantly descriptive. When empirical data is drawn, most studies are of low methodological quality, small-scale and rely on limited data sets. As a result, they fail to provide evidence on the drivers of interest to extremist sites, engagement in social media on these issues, the reasons for influence of content and the external and internal correlated factors, as well as the trajectories of youth who come to perpetrate violent acts.

This being said, it can extrapolated that Internet and social media may play an active role in the violent radicalization process, mainly through the dissemination of information and propaganda, as well as reinforcing the identification and engagement of a (self)-selected audience that is interested in radical and violent messages (Brachman & Levine, 2011; RAND Europe, 2013; Sageman, 2008; Von Behr, Reding, Edwards, & Gribbon, 2013; Weimann, 2004).

In this sense, rather than being initiators or causes of violent behaviors, the Internet (and social media specifically) can be facilitators of radicalization. According to the literature, Internet’s role thus seems more specifically one of decision-shaping rather than triggering decision-making, and it works through the creation of an environment of like-minded people constituted in opposition to an “Other”. Actual violent radicalization entails the mediation of several complex processes, including more complex social-psychological processes and person-to-person communication in conjunction with other offline factors. Causal links between radicalization towards extremism, violent radicalization and the actual commission of acts of extreme violence are far from being established, not withstanding the intentions and aims of relevant actors using social media to achieve some of these outcomes. The following sub-sections present specific key findings by topic area.

### 7.1 Specific social media platforms

Based on descriptive evidence, it may be further hypothesized that chatrooms can act as accelerators of transformation where their members are self-selected and positively predisposed for extremist ideology. However, the researchers could not find empirical evidence to suggest that such is the case, nor any evidence to contradict it.

No empirical evidence was found that Facebook, Twitter and other platforms have a causal impact on the outcomes of violent radicalization among young people, nor is there evidence to contradict it. Facebook is possibly a space of first approach for online radicalization and
a space where extremist ideas are disseminated, without necessarily transitioning to violent beliefs or violent actions by receivers of such content.

Currently, there appear to be no studies linking videogames to real world violent radicalized actions, but one plausible hypothesis is desensitization to virtual violence.

Based on current studies, there is to date no empirical evidence to suggest that social media self-regulatory measures help reduce violent radicalization outcomes among young people, although nor is there any evidence to contradict this possibility.

Most evidence on types and processes of Internet and social media uses is limited to retrospective anecdotal case studies or file analyses of religion-linked violent radicalized individuals. Although informative, these studies are generally of low methodological quality and do not inform about which process of Internet and social media use might have led to actual violent radicalization, nor do they clarify how this translates (or not) into violent behavior.

7.2 Gender and radicalization

Existing research on gender, social media and radicalization is highly exploratory and descriptive and none of the consulted studies/reports offer a full overview of the gender issue in social media.

Women’s role in online radicalization remains under-researched and under-estimated.

Research has focused on ISIS in a disproportionate manner, and there is little interdisciplinary/intercultural research on extreme right wing, left wing or radical feminist women’s involvement on the Internet and social media. The end result is a partial understanding of the role of women in violent radicalization online.

The victimization paradigm of women engaged in violent radicalization is clearly limited in providing a comprehensive understanding of their role in radicalization online (and offline). Extremist and hate movements are increasingly building on women’s participation and the stereotype of terrorism as largely dominated by men is changing.

There is an absence of research into the construction of masculinity in relations to ideas of femininity, when it comes to gender, social media and radicalization.

There is also a gap in research on the ways in which PVE/CVE and de-radicalization strategies address each gender, with interrelated as well as separate discourses.

More women researchers, including young researchers (digital natives) are needed worldwide. Their life experiences may help to enrich understanding of the gender-specific and youth-specific aspects of (violent) radicalization and the role of the social media in this process.

7.3 Extreme right and left wing

There is to date no empirical evidence to link extreme right-wing groups’ use of Internet and social media to actual violent radicalization among youth.
One study presents evidence that some young people are vulnerable to extreme speeches, partly through confirmation bias and rationalization processes, and because they lack a sense of perspective to judge the reliability of information sources and their use (Biddle, 2015). Others suggest that a reason for listening to (radical) voices is that these give meaning to a lived experience (Blackwood, Hopkins & Reicher, 2015). Studies such as these could be replicated on a larger scale.

7.4 Media and Information Literacy

Although promising, the success and/or efficiency of general MIL programs on prevention of violent radicalization have not been assessed.

Although MIL programs are becoming more widespread, literature is skewed to experiences in the global North, and none could be identified that specifically address violent radicalization. There were no empirical studies to be found on the issue of their efficacy in regard to reception issues concerning preventing online violent radicalization.

7.5 The Arab world and Africa

Currently, there is little scientific research on radicalization and social media in the Arab world. Studies show a strong presence of terrorist groups on social media but are limited to being descriptive rather than analytical. This work explicates the risks of spreading extremist ideas and warns of possible ‘confusion’ that this information can produce in consumers.

No published studies nor grey reports could be found that deal with the impact of social media on violent radicalization of Arab youth, nor on the impact of prevention initiatives and policies in the Arab world.

The same research lacuna applies to studying the impact of control of Internet censorship and media institutions, a common phenomenon on the region. Some see this as preventing the emergence of credible, independent alternatives to extremist content (Radsch, 2016).

Research pertaining to Africa is only emerging, and points towards the significance of considering mobile platforms as vehicles for intended radicalization towards violent extremism.

7.6 Asia

Due to a lack of empirical studies, it seems difficult to provide specific trends and conclusions on social media and radicalization in Asia.

Regional centers of expertise are not yet existent which translates into an absence of networks and research hubs that can focus on violent radicalization and its specific challenges in the cyberspace.
CONCLUSIONS

Given the importance of young people as citizens and as potential ambassadors for peace, the research on the reasons and explanations of online violent radicalization of some youth should be thoroughly investigated. This has to be balanced with the obligation of states to protect and promote young people’s safety and freedoms, especially in terms of freedom of expression, participation and privacy even while curtailing hate speech online.

Radicalization of young people online has yet to attract a critical mass of studies for the research to be credible in its conclusions and recommendations. There is currently only a small amount of quantitative of qualitative data on the topic, in contrast to the literature on empowerment of young people on safe Internet use. While the grey literature (eg., reports, profiles, in-depth journalism investigations) on violent radicalization and terrorism has increased over the last few years (from 2012 onward), the academic field is still largely under-researched and under-theorized. Furthermore, several studies suffer from significant methodological limitations such as anecdotal case studies (based on single case studies), small and unrepresentative samples or data sets (small-scale corpora, snapshot analyses). In addition, there is an asymmetry between the number of studies conducted in Western countries and research in the rest of the world, particularly the MENA countries, which can lead to an inherent bias in construction and validity of theoretical models and in interpretation of results.

Currently, there is some evidence for correlation between exposure to extremist propaganda and recruitment and the expression of extremist attitudes and increased risk for violent radicalization among youth, particularly in the case of extreme right wing groups (Briddle, 2015). However, the exact roles and processes via which Internet and social media contribute to the radicalization process need to be further explored. However, there is not sufficient evidence to conclude that there is a causal relationship between online extremist propaganda or recruitment via Internet and social media and the violent radicalization of young people.

The synthesis of evidence shows that, at its best, social media constitutes a facilitating environment rather than a driving force for violent radicalization or the actual commission of violence. Thus, there is no clear evidence that social media’s influence can act independently of other offline factors, though online and offline dimensions are becoming increasingly porous. In this sense, Internet and social media can act as reinforcement because young extremists can then actively seek and find material in social media to feed their interests, and in doing become prey to enrolment in violent actions.

Some prevention strategies, which have been devised for security services, have also been used for teachers (Kovacich & Jones, 2002). Professionals of various kinds have received training sessions in warfare tactics by terrorist groups. In some countries like France and the UK, teachers and other educators are being trained to recognize early signs of online (self)-radicalization among their students so as to report them and try preventive methods.
No studies could be found that investigate in depth the efficiency of these methods. On the other hand, there are numerous journalistic, anecdotal and grey literature reports that point to the high level of false positives, the dangers of detection and profiling by school personnel, and negative outcomes on youth, families and communities.

The literature does reveal a developing trend for online counter-measures that are context-sensitive and which challenge extremist representations, claims and hate speech. Pro-active strategies tend to take two major forms: online counter-narratives and grassroots anti-propaganda initiatives, offline and online. They tend to be limited in scope and suffer from lack of funding which prevents them from maintaining their online presence and reaching out to young people in process of radicalization. This also prevents such programs from being evaluated for effectiveness. Furthermore, several authors (for example, Ferguson, 2016) are now challenging the efficiency of counter-narratives and pinpointing their potential counter-productive effects. The assumption that they can counter violent extremism narratives, or real threats of violent extremism, “remains unproven” (Ferguson, 2016).

Overall, few MIL initiatives have been assessed for efficiency. The research in this area tends to make anecdotal mention of online resources designed for teachers in classroom settings. The diverse initiatives that have been implemented in several countries are generally presented as improving youth's critical competences to navigate online, but no evidence could be located on their efficacy in reducing the risk of online violent radicalization.

A number of conclusions can also be made about the limitations of the surveyed research.

One major caveat in literature stems from the fact that many research frames have turned into myths, buzz words and Internet memes that could be detrimental to the image of young people and to the image of the Internet at large such as: the network metaphor, the echo chamber, the lone wolf, the greenbird. These labels paradoxically feed into the communication strategies of many extremist groups, by granting them power over setting the agenda and the narratives and helping them monopolize attention to their issues to the detriment of other realities (such as women's plight). For instance, the image of the embedded, self-radicalized “lone actor” feeds the narrative of chaotic, arbitrary acts of violence that can reach the general public anytime, anywhere, with an internal enemy. The image is often sourced to direct online radicalization via social networks and is often considered to be related to ineffective or impossible police work to ensure safety. Yet, there is no empirical proof of individuals acting in isolation or as a mere encounter with radicalizing content online. Indeed a convincing rebuttal of the assumptions has been put forward (The Guardian, 2017).

There is also little presence of the theory and history of propaganda, indoctrination and media effects in the literature, and diverse paradigms are drawn used by different authors. These range from uses and gratifications theory, which attributes effects to what the user makes of the messages consumed, through to behaviouralist stimulus-response where exposure per se results in short-term affective outcomes (whether reinforcement or change-oriented). Lacking are more holistic models which take into account the different ways that various communications (such as news media, social media and the entertainment industry) operate at levels of knowledge, attitude and practice. Theories of indirect effects
via diffusion, multistep flows, and the intersections between different media types are rarely referred to (such types including public news media, social media, closed fora such as Whatsapp groups, and one-on-one interpersonal messaging exchanges). In addition, there is little attention to theory about the roles of agenda-setting, framing, and ideological impacts in relation to the development of individual and group identity and action.

There is also very little analysis of policy strategies from a theoretical point of view that would locate these strategies in deeper political economy and institutional praxis.

Furthermore, research evidence is very limited or lacking in a number of other important topics such as: a) the intersections between online participation in extremist groups and offline violent radicalization and actions; b) the efficacy of training online (without “real” experience such as training camps); c) power and limitations of online “control systems” (tracking, blocking); d) the influence of cloaked websites (that are hard to reach except by highly motivated individuals); e) active individuals seeking extremist content vs. passive and accidental encounters and their impacts.

On a positive note, the scarcity of empirical research offers numerous opportunities for future studies in terms of topics and methodology. Research methodologies need however to be upgraded. The use of Social Network Analysis, especially combining lexical analysis and emotional analyses, is highly promising. However, existing studies using technology and algorithms are built on very small samples. The use of standard tools that lack radicalization-specific granularity (Geographic Information Systems, Social Network Analysis) is not reliable enough to identify errors. Future studies using these technologies may benefit from including more diversified and wider samples in order to explore in-depth the impact of visual or textual propaganda on the process of radicalization. More quantitative and qualitative studies are also needed to explore the offline consequences of online extremism.

Researchers face significant empirical, methodological and ethical challenges, which may partly account for the current state of the literature. Conducting research linking social media to offline violent radicalization requires infiltration of some kind to get access to encrypted and closed-access spaces or proxy sites (particularly cloaked sites). In addition, although extremist groups do not trust large-scale commercial networks, most studies surprisingly focus on these networks, overlooking cloaked websites and other spaces where more information could be revealed about at-risk sympathizers, their identity, their social circles and their actions. This, and the possible young age of participants, combine to pose significant ethical challenges in terms of privacy rights and protection of the most vulnerable but also in terms of the potential use and mis-use of such information after collection.

A further significant point to consider is the different informational and communications contexts in which online radicalization efforts are to be studied. There is a big question as to whether findings in liberal environments have any resonance in more closed ones, and vice versa. This may explain some of the regional diversity registered in this Report, and more attention needs to be paid to the significance of the wider context of freedom of expression and the right to information in each given study instance.

Partly for this reason, it can also be questioned whether a search for general causal effects in this area can ever be definitively resolved. Significantly, the lack of evidence of direct
causation itself is valuable because it cautions against any policy measures that take for
granted such a link, and which – on this basis – could limit rights to expression, privacy and
association without substantive justification.
RECOMMENDATIONS

On the basis of the literature assessed in this Report, the following observations and recommendations can be formulated:

General observations

➥ The process of online radicalization of youth is a global and multi-faceted phenomenon in which social media are used as a strategic tool to try to incite violent behavior.

➥ The role of such social media should not be isolated but seen in the context of both other communicational platforms and significant social factors such as the political, social, cultural, economic and psychological causes.

➥ There are insufficient studies that effectively address the role of communications in reinforcing or countering incitement for radicalization towards violent extremism.

Research confirms, however, that many uses of social media by terrorists are meant to foster fear among Internet users in general and to polarize societies. In addition, the ambition includes incitement and recruitment of individuals to join their cause and engage in violence. At the same time, the actual reception and impact of online radicalization efforts needs much more study.

➥ Attempts to combat Internet dimensions of the violent radicalization of youth do not have proven efficacy, but it is clear that they can damage online freedoms, especially freedom of expression, freedom of information, privacy and the right to association.

➥ International standards of legality, necessity, proportionality and legitimate purpose are essential in considering any limitations of media including social media.

➥ There is a need to further explore and research how both online and off-line platforms can be harnessed to mobilize young people to develop narratives of peace, promote inclusion, equality and intercultural dialogue.

➥ There is a need to highlight the importance of reliable information, such as professional and independent journalism, as a factor in countering inciteful narratives which mobilise falsehoods to promote their objectives.
RECOMMENDATIONS:

States could consider to:

- Strengthen the cooperation with the international community and all relevant actors in order to join efforts to prevent youth radicalization and combat violent extremism in all its forms.

- Develop and implement comprehensive effective measures for preventing radicalization that leads to violence, and to elaborate national policies and/or action plans dedicated to this end.

- Reinforce a global dialogue about proportionate positive actions to counter radicalization, and place it within the remit of UNESCO's Internet Universality Principles (Rights, Openness, Accessibility, and Multistakeholder participation), which promote a human rights-based approach, and keep perspective on the overwhelming benefits of the Internet at the same time as mitigating abuses.

- Strengthen the overall education sector responses to violent extremism, including through human-rights based Global Citizenship Education (GCED) programmes and teachers and other youth mediators’ trainings.

- Promote and evaluate MIL strategies, recognizing that new technologies are also a tool that can be used for: preventing violent extremism; encouraging counter and alternative narratives; advancing citizen education; and developing critical thinking. In this way, MIL can support human rights, dialogue, mutual understanding and tolerance, and empower young people to be masters of their own identity and to detect and resist online radicalization efforts.

- Take into account and encourage the participation of youth in decision-making processes, in line with the UN General Assembly Resolution 2250 and empower them to lead new digital projects in favor of peace, tolerance and mutual understanding.

- Recognize the changing status of women as both actors and targets of online radicalization, and support greater representation of women (and young people) in relevant research projects.

- Deepen engagement with civil society organizations, relevant local communities and non-governmental actors acknowledging their role in contributing to the effectiveness of the implementation of counter-terrorism national plans and strategies.

- Support research institutions and scholars to study online violent radicalization, in the wider context of other dimensions, at a greater scale and quality, and through regional and global networks.
Private sector, media and Internet intermediaries could consider to:

➥ Ensure professional and conflict-sensitive journalistic coverage by providing verifiable information and informed opinion and be cognisant of language and narratives that can foster division, hatred and violent radicalization.

➥ Sensitize news media online and offline to avoid pitfalls of fearmongering, stereotyping, confirmation bias, fake news and the creation of “media panics”, and to reassert the importance of media ethics in the face of radicalization of young people for violent extremism.

➥ Evolve social media Terms of Service in a consultative manner so as to ensure a legal and proportionate basis for action, especially in relation to governments or other third party pressures for tracking, disclosing or sharing information about young users, and for removal of content aimed at inciting radicalization towards violent extremism.

➥ Define and manage expressions of hate without compromising rights to freedom of expression, drawing upon the principles set out in the Rabat Plan of Action by the UN High Commission on Human Rights.

Civil society and Internet users could consider to:

➥ Increase efforts of civil society organizations to leverage social media to drive the formulation and dissemination of peaceful messages, alternative and counter-narratives that challenge terrorist propaganda and hate speech.

➥ Promote civil society organizations as advocates for empowering counter-narratives and building participatory communities around peaceful values.

 Vermont family-based networks online and offline, along with parental influence, and invest in social fabric that can moderate feelings of alienation amongst youth.

➥ Promote literacies that favour non-violent conflict resolution and a culture of peace.

➥ Educate Internet users about ethical online behavior, privacy issues and the risks associated with the disclosure of personal data and other potentially sensitive information (through social media), as well as how to recognize and flag illegal content/activities and terrorist abuse of social networks.
APPENDICES

Appendix 1. Methodology and systematic search strategy
Appendix 2. Mapping of authors and literature on radicalization and social media
Appendix 3. The centers or institutions examined in this research: breakdown by country
Appendix 4. Québec’s Call for Action

The following are online only:

Appendix 5. Bibliography of selected works published in English
Appendix 6. Bibliography of selected works published in French
Appendix 7. Bibliography of selected works published in Arabic
Appendix 8. Bibliography of selected works published in Chinese
Appendix 9. General plurilingual bibliography

http://en.unesco.org/preventing-violent-extremism
http://en.unesco.org/themes/fostering-freedom-expression
APPENDIX 1.
METHODOLOGY AND SYSTEMATIC SEARCH STRATEGY

In order to meet the objectives of this review, we adapted the highly robust review methodology developed by the Campbell collaboration (Boruch, 2004). We have fine-tuned the details of every step in line with the specific nature and objectives of our review. Campbell’s method is also in the core of major systematic review methodologies employed by leading organizations such as Cochrane, and PRISMA guidelines (https://www.campbellcollaboration.org). Each review step is described below, along with the review search results. These steps are inter-related key steps conducted in a continuous iterative process (Bernard et al., 2014).

1.1 Generic research steps

STEP 1. Formulate the review question and set the definitions. We started with formulating the review question, which guided the objectives and methods of the systematic search: “What are the roles of social media in the process of violent radicalization and to what extent do prevention/intervention initiatives address this role?”

The review question structured the review process by setting the target population (e.g., youth), operationalizing the definitions and expected outcomes, and illustrating the links among the different concepts of interest. In this review, we used the following definitions for the major constructs/variables:

Violent Radicalization: we used elements drawn from the three definitions presented in the main body of this report. Prevention: for the purpose of this review, prevention includes any strategy or program related to Internet and social media in order to reduce risk for violent radicalization among youth. Intervention: refers to any strategy or program related to internet and social media that specifically targets youth who have become violently radicalized and that aims at reducing intended or current violent behaviour. This includes de-radicalization programs (programs that are intended to change individuals’ attitudes and beliefs that justify violent extremism). Media/Internet: included all Web 2.0 based technology communication platforms.

Our work excludes structured forms of guerrilla warfare or civil war, revolutionary actors with their violent forms, violent forms structured by illegal organisations (mafia, gangs). Our work also excludes radical forms of thought (anti-system, populism, conspiracy) where these refute violent or terrorist acts.
STEP 2. Set inclusion/exclusion criteria. The criteria we used to set admissible evidence are based on the US Preventive Services Task force and the Canadian Preventive Services Task force standards. The guiding principle is to target evidence “most critical to make recommendations”. Because researching the link between Internet and violent radicalization is relatively new, a search strategy that is highly specific would have significantly reduced the number of relevant studies. We decided to opt for increased sensitivity by using the “Best Available Evidence” approach as adapted by Petticrew and Roberts (2006). One challenge of this approach is that it is likely to produce a large number of papers with diverse methodologies in the bibliographic searches. However, the net advantage is that it increases the likelihood of including relevant studies that use a different conceptual framework (e.g., studies on terrorism) but include operational measures and outcomes relevant to our review. This in turn was hoped to improve the generalizability, consistency and triangulation of evidence as well as reduce the risk for chance results. The following inclusion criteria, guided by the review question, set the rules for the evidence we considered admissible for the purposes of this review:

- Written in English, French, Spanish, Arabic, or Chinese (languages spoken by the research team).
- No restriction for document type or method.

But any of these documents had to include:

- Violent radicalization or terrorism AND Internet/social media.

STEP 3. Searching the literature.

STEP 3.1. Searching the literature for North-America, Latin-America and the Caribbean and Europe. Each country team developed the search strategy most adapted to its scientific and grey literature bases (Journalistic or thinktank articles available to scientists). Each team consulted with a library science expert and developed the most suitable key words and devised a search strategy which is diversified and includes a search of bibliographic reference databases, “grey” literature resources, the Web teams also used personal contacts to identify experts or consortiums working on issues relevant to radicalization. First, we ran database searches (See Table 1 for an example of search databases and an example of a search key words and strategy for PsycINFO). To reduce “publication bias” (Bernard et al., 2014), we conducted a thorough search for “grey” literature. We web-searched for studies and reports from main research organizations and research/think tanks on security issues (e.g. TSAS, TERRA, Homeland security institutes, Government ministries, see Freedman, 2010), and examined local journals and publications, conference proceedings, dissertations and theses, etc. We completed the search strategy by hand-searching paper journals and reference lists from the relevant review papers and by contacting key experts in the field.
### Table 1. Example of English search key words and search databases

<table>
<thead>
<tr>
<th>Key words</th>
<th>AND</th>
<th>Key words</th>
<th>AND</th>
</tr>
</thead>
<tbody>
<tr>
<td>(“Radical Islam*” OR “Islamic Extrem*” OR Radical* OR “Homegrown Terror*”</td>
<td></td>
<td>(“Online Social Networks” OR “Cyberbullying” OR “Online Community” OR “Communications Media” OR “Computer Mediated Communication” OR “Social Media” OR “Telecommunications Media” OR “Websites” OR “Information Systems” OR “Internet” OR “Communication Systems” OR “Electronic Communication”) OR (“social media” OR online OR bebo OR facebook OR flickr OR foursquare OR friendster OR hulu OR instagram OR linkedin OR meetup OR pintrest OR reddit OR snapchat OR tumblr OR xing OR twitter OR yelp OR youtube)</td>
<td></td>
</tr>
<tr>
<td>OR “Homegrown Threat*” OR “Violent Extrem*” OR Jihad* OR Indocrinat* OR T error* OR “White Supremacis*” OR Neo-Nazi OR “Right-wing Extrem*” OR “Left-wing Extrem*” OR “Religious Extrem*” OR Fundamentalis* OR Anti-Semitism* OR Nativis* OR Islamophob* OR Eco-terror* OR “Al Qaida-inspired” OR “Daesh-ISIS-inspired” OR Anti-Capitalis*)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limit both by</td>
<td>Publication Year : 2001-2016</td>
<td>Language: English</td>
<td></td>
</tr>
<tr>
<td>Examples of searched databases</td>
<td>ABI/Inform Global, Academic Search Complete, ATLA Religion Database,</td>
<td>Examples of searched databases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Canadian Public Policy Collection, Canadian Research Index, CBCA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete, Communication Abstracts, Education Source, ERIC, FRANCIS,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>International Political Science Abstracts (IPSA), Medline, OpenGrey, PAIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>International, Political Science Complete, ProQuest Dissertations and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Theses, PsycINFO, SocINDEX, Sociological Abstracts et finalement, Web of</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example of grey literature search</td>
<td>A list of 100 organisations and think tanks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in the domain of radicalization, extremism</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and terrorism and all links to other resources from these websites</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>for a total of 628 consulted websites.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**STEP 3.2. Searching the literature for Arab countries.** Additional Arabic literature searches: In addition to the systematic review method, a first research on publications in Arabic or related to Arabic works on the phenomenon of radicalization enabled us to identify a significant number of publications (books, studies, reports, scientific papers, semi-academic and journalistic articles) and conferences (meetings, conferences and research workshops) on this phenomenon.
In order to do this, we used keywords such as radicalization (tatarof), terrorism (irhâb), the “Islamic State” (addawla al-islâmiyya) Daesh, jihad (jihâd), or the jihadists (moudjâhidîn) that we have associated with other such as: jihadist propaganda (di'âya jihâdiyya), social media (i’lâm ijtima’î) or the media strategy (istrâtijîyya i’ilâmiyya). Our research was carried out mainly with filters of language, country, and region (Maghreb, Mashreq, Gulf region). We also targeted the sites of the major research centers in humanities and social sciences in the Arab world in order to understand the role of research on violent radicalization in this region.

**STEP 3.3. Searching the literature for Chinese, South and Southeast Asian countries.**

All searches are mainly based on three largest and mostly-used academic online libraries and databases in China, namely, CNKI (China National Knowledge Infrastructure), Wanfang, and Vip database. We also included in our search, three English language databases, Springer link, Science direct and Wiley online library, in order to include Chinese scholars’ publications in English or publications on radicalization in China.

We cross-referenced Chinese keywords such as “radicalization” (激进化), “radicalism” (激进主义), “extremism” (极端主义), “terrorism” (恐怖主义), “fundamentalism” (原教旨主义), “Islamism” (伊斯兰主义), “Al Qaeda” (基地组织) with keywords “social media”, “new media”, “online”, “cyberspace”, “youth” and “China”. The search results show that there are several publications on new media, social media, and radicalization respectively and separately while very little on “youth online radicalization”. Furthermore, most publications on this topic focus on the phenomenon in Western countries. Importantly, there was an issue of semantics, because we found no results when combining social media, youth radicalization and China. This is due to the fact that Chinese scholars tend to use the words “extremism”, “terrorism”, “religionism”, “fundamentalism”, “Islamism” and “Al Qaeda” to discuss violent radicalization in Chinese publications. Finally, there are little if no use of keywords such as “Daesh” and “ISIS” in Chinese publications.

After the initial three research steps including the searches in additional languages, we continued the systematic review in five additional steps in order to extract and synthesize data and information from selected research.

**STEP 4. Select studies for inclusion in the review.** First, members of each country research team screened abstracts, in order to eliminate clearly ineligible studies. Second, they reviewed full-text documents for final screening of eligibility using a scale from 1 (definite exclusion) to 5 (definite inclusion). Disagreements were discussed and decisions were obtained by consensus. We used the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) framework as a template to record the results of the literature searches into a flow chart (available at http://www.prisma-statement.org/statement.htm). The flow chart also documents the reasons for exclusion, as seen from Figure 2 below.

**STEP 5. Gather information from studies.** The data and information from each selected study were first screened (using data screening sheets derived from Cooper, 2010). The information and data were then extracted using coding sheets for data extraction. Coding sheets provided information on the following categories: author, year, study setting, study design, objectives, samples of participants, measures, prevention/intervention programs (when applicable), outcomes, results, main conclusions, etc.
STEP 6. Analyze and integrate the outcomes of research. We performed several parallel aggregations of evidence according to: a) the different concepts emerging from the review process; b) the study type; c) the geographic zone of study; and d) the prevention or intervention-focused studies; among others. This aggregation method has the net advantage of organizing very heterogeneous data/evidence sets into meaningful wholes. The research team members conducted the data extraction and synthesis.

STEP 7. Interpret the evidence. In this step, we synthesized the accumulated evidence specifically in terms of: (a) the different themes that emerged from the literature; (b) the degree of trust in each conclusion (in terms of available information and robustness of studies and reports); (c) the generalizability and applicability of conclusions; (d) the limitations of existing knowledge and future recommendations.

STEP 8. Extract key recommendations and finalize the report: The review team extracted the key recommendations with focus on limitations and future orientations. We use a narrative synthesis method to integrate the results in the report, which is structured according to the PRISMA group guidelines for report writing (Mhoer et al., 2008).

Figure 1. Search strategy flow chart
1.2. Overall search results (by theme and continents)

Below, we present the results of steps 5 and 6 of the review process, which are the results of aggregation process. Table 2 provides the results by study design, scientific field and overall topic in the three main languages. In the following table, we wanted to have an overview analysis of the articles. We first examined the following three working languages (English, French, Arabic) in order to identify the methodological choices and the disciplinary orientations.

Then we gave these resources keywords to identify the content orientations. Sometimes, it was complex to pick one keyword but we then listed the most representative keywords. For example, the approach in the text can be focused on terrorism but also include violent aspects. We then favored the most frequently cited words. In the end (details in Figures 3-7), it can be seen that:

- Qualitative and sociological approaches are the most numerous in English. On the other hand, in French the approaches are rather from the political sciences.
- While quantitative and qualitative approaches are equivalent in English and Arabic, quantitative methods are very rare in French.
- Themes relating to terrorism and violent attacks are generally dominant in all three languages, but the notion of radicalization is little present in Arabic and less so in English.
- The references to Islam are not very present in English, and even less so in French and Arabic.

Table 2. Results by study design, scientific field and overall topic

<table>
<thead>
<tr>
<th>Disciplinary or method choices</th>
<th>English</th>
<th>%</th>
<th>French</th>
<th>%</th>
<th>Arabic</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative research</td>
<td>143</td>
<td>25.5%</td>
<td>74</td>
<td>24.8%</td>
<td>34</td>
<td>18.1%</td>
</tr>
<tr>
<td>Quantitative research</td>
<td>72</td>
<td>12.9%</td>
<td>12</td>
<td>4.0%</td>
<td>26</td>
<td>13.8%</td>
</tr>
<tr>
<td>Theoretical analysis</td>
<td>65</td>
<td>11.6%</td>
<td>32</td>
<td>10.7%</td>
<td>12</td>
<td>6.4%</td>
</tr>
<tr>
<td>Sociological approaches</td>
<td>135</td>
<td>24.1%</td>
<td>62</td>
<td>20.8%</td>
<td>34</td>
<td>18.1%</td>
</tr>
<tr>
<td>Political science</td>
<td>100</td>
<td>17.9%</td>
<td>80</td>
<td>26.8%</td>
<td>45</td>
<td>23.9%</td>
</tr>
<tr>
<td>Psychological approaches</td>
<td>35</td>
<td>6.3%</td>
<td>32</td>
<td>10.7%</td>
<td>12</td>
<td>6.4%</td>
</tr>
<tr>
<td>History</td>
<td>10</td>
<td>1.9%</td>
<td>6</td>
<td>2.0%</td>
<td>25</td>
<td>13.3%</td>
</tr>
<tr>
<td>Topic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violence attack</td>
<td>137</td>
<td>24.5%</td>
<td>73</td>
<td>24.5%</td>
<td>33</td>
<td>17.6%</td>
</tr>
<tr>
<td>Terrorism</td>
<td>125</td>
<td>22.3%</td>
<td>44</td>
<td>14.8%</td>
<td>54</td>
<td>28.7%</td>
</tr>
<tr>
<td>Cyberterrorism(^1)</td>
<td>117</td>
<td>20.9%</td>
<td>42</td>
<td>14.1%</td>
<td>16</td>
<td>8.5%</td>
</tr>
<tr>
<td>Social networks</td>
<td>87</td>
<td>15.5%</td>
<td>11</td>
<td>3.7%</td>
<td>21</td>
<td>11.2%</td>
</tr>
<tr>
<td>Conspiracy theory</td>
<td>55</td>
<td>9.8%</td>
<td>12</td>
<td>4.0%</td>
<td>26</td>
<td>13.8%</td>
</tr>
<tr>
<td>Radicalization</td>
<td>22</td>
<td>3.9%</td>
<td>54</td>
<td>18.1%</td>
<td>8</td>
<td>4.3%</td>
</tr>
<tr>
<td>Islam</td>
<td>11</td>
<td>2.0%</td>
<td>56</td>
<td>18.8%</td>
<td>24</td>
<td>12.8%</td>
</tr>
<tr>
<td>Gender(^2)</td>
<td>6</td>
<td>1.1%</td>
<td>6</td>
<td>2.0%</td>
<td>6</td>
<td>3.2%</td>
</tr>
<tr>
<td>Selected occurrences</td>
<td>560</td>
<td></td>
<td>298</td>
<td></td>
<td>188</td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>260</td>
<td></td>
<td>196</td>
<td></td>
<td>96</td>
<td></td>
</tr>
</tbody>
</table>

1 Cyberterrorism is understood in the study to refer to the use of the Internet to orchestrate violent acts that result in or threaten the loss of life or significant bodily harm in order to achieve political gains through intimidation.
2 The processes of violent radicalization do not appear to be identical in gender. We have therefore sought research characterizing this difference according to gender.
3 On the basis of the “social media” and “radicalization” criteria, scientific articles have a serious methodological basis.

Cyberterrorism is understood in the study to refer to the use of the Internet to orchestrate violent acts that result in or threaten the loss of life or significant bodily harm in order to achieve political gains through intimidation.

The processes of violent radicalization do not appear to be identical in gender. We have therefore sought research characterizing this difference according to gender.

On the basis of the “social media” and “radicalization” criteria, scientific articles have a serious methodological basis.
In order to identify the contents of consulted documents, we indexed each work in its related field. We refined this approach by an indexing of keywords used either in the title or in the abstract for each of the three languages.

Figures 3 to 5 below show that political science and sociology are the most prevalent sources of literature on social media and radicalization. Sociological studies are more dominant in English, while the research outputs in Arabic and French mostly stem from political sciences.

**Figure 3. Quantitative distribution of disciplines in the English references**

**Figure 4. Quantitative distribution of disciplines in French references**
Figures 6 to 8 below show that the overall topics were homogeneous across languages with a clear prevalence of themes related to terrorism and violent or dramatic consequences (46% English – 39% French – 43% Arabic).
Figure 7. Quantitative distribution of themes in French references

Figure 8. Quantitative distribution of themes in Arabic references
Second level aggregations show some differences across languages. For example, English and Arabic literature focuses more on social media and terrorism as well as the effects of terrorist policies within social networks (16% English – 4% French – 21% Arabic) as compared to French literature (47% English – 22% French – 43% Arabic). The issue of cyber-terrorism and the methods of fighting against terrorist communications (censorship, discourse analysis, counter-discourse) is equivalent across the three publication languages (21% English – 14% French – 15% Arabic). Very few identified French and Arabic studies focus on processes of indoctrination and radicalization (4% English – 18% French – 5% Arabic), or topics such as Islam, Islamism, Salafism (2% English – 19% French – 9% Arabic). We see that francophone journals put more emphasis on studies of religious radicalization and they perceive of radicalization as a procedure for mental control of young people. The issue of gender is under-investigated in all three languages (1% English – 2% French – 1% Arabic).

1.3. Mapping

Figures 9 and 10 show that English is the dominant language of publication with more than 50% of literature on radicalization and 51% of publication on radicalization and social media (18% French and 10% German). We note that Russia publishes 10% of research in the field on terrorism, but only 2% on the topic of radicalization and social media. The predominance of English publications also stems from the fact that Portuguese-speaking and Asian countries, among other countries, publish predominantly in English.

Figure 9. Map of publications by language (themes radicalization and terrorism)
The following conclusions can also be extracted from the mapping of available literature:

- The quantitative studies are still rare (17.3% English – 6.1% French – 13.8% Arabic).

- The bulk of empirical research is based on qualitative studies, which most are case analyses or interviews with radicalized individuals (38.5% English – 33.2% French – 18.1% Arabic).

- Historical approaches (1.9% English – 3.1% French – 13.3% Arabic) are very few. We notice the important role of such research in the Arab world and in flagship universities in the study of terrorism.

- Psychological approaches studies (13.5% English – 16.3% French – 6.4% Arabic) focus on the impact of terrorism on the victims, the psychological effects of recruitment on conspiracy theories and practices of deradicalization or citizen integration of individuals leaving terrorism.
2.1 Mapping of researchers

We identified the country of work of the researchers based on their university or research center affiliation. Our database includes 679 authors. Figure 11 and Table 3 show the breakdown by geographical area:

Figure 11. Mapping by continents
Table 3. Researcher geographical area

<table>
<thead>
<tr>
<th>Geographical Area</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>158</td>
</tr>
<tr>
<td>Central and Latin America</td>
<td>6</td>
</tr>
<tr>
<td>Asia</td>
<td>69</td>
</tr>
<tr>
<td>Europe</td>
<td>287</td>
</tr>
<tr>
<td>Arab world</td>
<td>139</td>
</tr>
<tr>
<td>Africa</td>
<td>8</td>
</tr>
<tr>
<td>Australia</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>779</strong></td>
</tr>
</tbody>
</table>

Table 4 below shows that the predominant poles of research in Europe are situated in France and the United Kingdom.

Table 4. European countries

<table>
<thead>
<tr>
<th>European countries</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>14</td>
</tr>
<tr>
<td>Belgium</td>
<td>12</td>
</tr>
<tr>
<td>Denmark</td>
<td>1</td>
</tr>
<tr>
<td>France</td>
<td>112</td>
</tr>
<tr>
<td>Ireland</td>
<td>8</td>
</tr>
<tr>
<td>Italy</td>
<td>14</td>
</tr>
<tr>
<td>Norway</td>
<td>5</td>
</tr>
<tr>
<td>Netherlands</td>
<td>5</td>
</tr>
<tr>
<td>Poland</td>
<td>6</td>
</tr>
<tr>
<td>Portugal</td>
<td>3</td>
</tr>
<tr>
<td>Romania</td>
<td>2</td>
</tr>
<tr>
<td>UK</td>
<td>80</td>
</tr>
<tr>
<td>Russia</td>
<td>4</td>
</tr>
<tr>
<td>Spain</td>
<td>4</td>
</tr>
<tr>
<td>Sweden</td>
<td>4</td>
</tr>
<tr>
<td>Switzerland</td>
<td>10</td>
</tr>
</tbody>
</table>

The distribution is equal for Northern Europe and Southern Europe (151 and 135), with predominantly 179 authors linked to institutions in Euro-Mediterranean countries.
North Africa and the Middle East represent 20.5% of authors on radicalization. We can note that authors linked to institutions in the Arab world mostly publish in English or French, rather than Arabic.

### 2.2 Research centers and institutions

Our review included numerous research centers, think tanks and institutions that have published during the review search on radicalization and social media. This list is not exhaustive but allows the reader to visualize many of the centers, the universities, and the institutions active in this field. The full list of the 364 centers can be found in Appendix 3.

#### Table 5. Distribution of centers by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>128</td>
<td>35.2</td>
</tr>
<tr>
<td>Latin America</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td>Asia</td>
<td>35</td>
<td>9.6</td>
</tr>
<tr>
<td>Europe</td>
<td>150</td>
<td>41.2</td>
</tr>
<tr>
<td>Arab world</td>
<td>36</td>
<td>9.9</td>
</tr>
<tr>
<td>Africa</td>
<td>3</td>
<td>0.8</td>
</tr>
<tr>
<td>Australia</td>
<td>8</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>364</strong></td>
<td></td>
</tr>
</tbody>
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Of the 364 research centers consulted, 41.2% are in Europe, followed by North America (United States with 28.3% and Canada with 6.9%). The Arab world follows in third position with 9.9% of research structures. Table 6 shows that more than 42 countries around the world currently include research centers on radicalization and terrorism and social media.
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Total: 364
APPENDIX 3.
THE CENTERS OR INSTITUTIONS EXAMINED IN THIS RESEARCH: BREAKDOWN BY COUNTRY

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<th>Institutions</th>
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<td>Australia</td>
<td>Alfred Deakin Institute</td>
</tr>
<tr>
<td></td>
<td>ARC Centre for Excellence in Policing and Security</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>MIT Media Lab/ Data61 – CSIRO enquiries</td>
</tr>
<tr>
<td></td>
<td>The University of Adelaide</td>
</tr>
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<td></td>
<td>University of South Australia</td>
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<tr>
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<td>University of Melbourne</td>
</tr>
<tr>
<td></td>
<td>University of Daekin</td>
</tr>
<tr>
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<td>University of Queensland</td>
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<tr>
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<td>Graz University</td>
</tr>
<tr>
<td></td>
<td>The Austrian Institute for International Affairs</td>
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<tr>
<td>Belgium</td>
<td>Department of Penal law and Criminology, Ghent University</td>
</tr>
<tr>
<td></td>
<td>ESISC (European Strategic Intelligence and Security Center)</td>
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<td></td>
<td>Faculty of Economics, Social and Political Sciences of the Catholic University of Louvain</td>
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<tr>
<td></td>
<td>Political Sciences and International Relations of the Free University of Brussels</td>
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<tr>
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<tr>
<td></td>
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<td>Raoul Dandurand Chair of Strategic and Diplomatic Studies, UQAM</td>
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<td>School of Criminology, University of Montreal</td>
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<tr>
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<tr>
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<td>CASS-National Institute of International Strategy</td>
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<td>CASS- Institute of West Asian and African Studies</td>
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University Paris 4 Paris-Sorbonne
University of Nice Sophia-Antipolis
University of Amiens
University of Paris-Descartes
University of Cergy-Pontoise
University of Grenoble II
University of Toulouse – Jean Jaurès

Germany
Center for Technology and Society of the Technical University of Berlin
University of Munich
Data travel agency – ThinkTank
Department of International Policies, University of the German Armed Forces of Munich
German Federal Court of Justice
Institute for Media and Communication Science, Ilmenau University of Technology
Leibniz Institute for Knowledge Media
Research Forum on Public Safety and Security, Freie Universität Berlin

India
Alexander von Humboldt Foundation
Computer Science, Maulana Azad National Institute of Technology, Bhopal
Department of CSE, Muffakham Jah College of Engineering & Technology, Banjara Hills, Hyderabad
Department of Information & Communication Technology, Manipal University, Manipal
Institute of Peace and Conflict Studies (IPCS)
Indraprastha Institute of Information Technology, Delhi
Sophion Bioscience
Research Committee on Economy and polity, Indian Sociological Society

Indonesia
Syarif Hidayatullah State Islamic University

Iraq
Al-Nahrain Center for Strategic Studies

Ireland
Centre for Sensor Web Technologies and 2School of Law and Government
Dublin City University
Institute of International and European affairs, Dublin/ Megazyme
International Ireland School of Law & Government, Dublin City University
Waterford Institute of Technology
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<td>International Institute for Counter-Terrorism</td>
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<td>Jewish Institute for National Security Affairs</td>
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<td>University of Turin</td>
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<td>Mexico</td>
<td>Universidad de Guadalajara</td>
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<td>Free University Amsterdam</td>
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<td>Risbo, Rotterdam</td>
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<td>Nigeria</td>
<td>Department of Geography, University of Ibadan, Ibadan</td>
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APPENDIX 4.
QUÉBEC’S CALL FOR ACTION

Québec’s Call for Action\textsuperscript{26} was released at the end of the Québec-UNESCO Conference entitled “Internet and the radicalization of youth: preventing, acting and living together.” This landmark document of the Conference stemmed from the deliberations of 500 participants from over 70 countries and urges citizens and the international community to take action to fight and prevent radicalization.

Concerned by the demonstrations of intolerance and violent extremism threatening the efforts made on a national and an international scale in favour of peace, security, protection and promotion of human rights, the rule of law and sustainable development;

\textbf{Considering} that radicalization leading to violence is an evolving, multi-facetted global phenomenon, which is not associated with a single religion, ideology or people;

\textbf{Highlighting} that the prevention of radicalization leading to violence is a common responsibility in respect of the principles and values enshrined in numerous international human rights instruments

\textbf{Answering} the call of the Secretary-General of the United Nations and his Plan of Action to Prevent Violent Extremism and committed to its implementation;

\textbf{Reaffirming} the importance of a multidimensional approach to analyze and prevent the root causes of radicalization leading to violence;

\textbf{Concerned} about the dissemination of violent extremist ideas using new means of communication, which are exploited for the purposes of extremist propaganda, recruitment by radical groups and incitement to commit violent acts motivated by hate and intolerance;

\textbf{Emphasizing} that new technologies are also a tool for preventing radicalization leading to violence, especially by making it possible to propose a counternarrative on the Internet to encourage citizen education and critical thinking, in support of human rights, dialogue, mutual understanding and tolerance;

\textbf{Reaffirming} the relevance of working to fully achieve the sustainable development goals adopted under the authority of the United Nations as part of the 2030 Agenda.

\textbf{Call on} the international community to cooperate and strengthen efforts to prevent youth radicalization and fight against violent extremism in all its forms;

\textsuperscript{26} Agreed by the international conference ‘Internet and the Radicalization of Youth: Preventing, Acting and Living Together’, December 2016, organised by Quebec and UNESCO/IFAP: https://www.agora-inscription.ca/UNESCO-QUEBEC/en/qc-call
Encourage all governments to implement measures for preventing radicalization leading to violence and to elaborate national policies or action plans dedicated to this end;

Recommend to question the narratives and ideas on which extremist groups are founded through the development of consistent counternarratives and through inclusive education on information and communications technologies which emphasizes the development of critical thinking, tolerance and respect for human rights;

Encourage all stakeholders to facilitate access and use of the Internet and new communication and information technologies as tools and platforms that help prevent radicalization and violent extremism, condemn violence and hate speech, and promote inclusion, equality and intercultural dialogue;

Invite governments to engage and empower youth to lead new digital projects in favour of peace, tolerance and mutual understanding and to spread the message far and wide.
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BIBLIOGRAPHY OF SELECTED WORKS
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Does social media lead vulnerable individuals to resort to violence? Many people believe it does. And they respond with online censorship, surveillance and counter-speech. But what do we really know about the Internet as a cause, and what do we know about the impact of these reactions?

All over the world, governments and Internet companies are making decisions on the basis of assumptions about the causes and remedies to violent attacks. The challenge is for analysis and responses to be firmly grounded. The need is for policy constructed on the basis of facts and evidence, and not founded on hunches or driven by panic and fearmongering.

It is in this context that UNESCO has commissioned the study titled Youth and Violent Extremism on Social Media. This work provides a global mapping of research (mainly during 2012-2016) into the assumed roles played by social media in violent radicalization processes, especially as they affect youth and women.