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Women, leadership and violent extremism: A potential security risk?

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Abstract

This paper examines an important and overlooked subject area. Women's role in extremist organisations is neglected in general, and the question of their tactical leadership in these settings is poorly understood. Without specific focus on particular extremist movements or ideologies and, to advance understanding and spur critical discussions around female leadership in violent extremism, we propose three conceptual models. The first details key drivers that plausibly facilitate the emergence of female extremist leaders. The second discusses six possible female leadership styles and the third touches on female spheres of influence in violent extremism. The paper provides preliminary explorative insights on a neglected topic while offering opportunities for further research.

Keywords: women, gender, violent extremism, leadership styles, counter-terrorism, security threats.

JEL codes: D02, D74, F52, H12, J16, Z18

1. Introduction

Violent extremism is multifaceted and results in loss of life, culture and damage to critical infrastructure among other impacts (Matusitz, 2013). Globally, extremist attacks “against civilians increased by 17% from 2015 to 2016” with key target on property and private citizens (Economics & Peace Institute, 2016). About 34% of terror attacks since 1985 were committed by women (Davis, 2006) and, on average, women form between 10-15% of individual terrorist group’s membership (Brown, 2018). Yet, little is known about women’s sphere of influence in extremism.

This paper goes beyond stereotypes and prejudices to explore the interaction between women, leadership and violent extremism and, spark discussion and interest to further explore this plausible security risk. In our exploratory efforts, we examine the main characteristics and impacts of female leaders in violent extremism by use of own-designed conceptual models to provide some basis for related debates and further research. We employ a general outlook that does not focus on any specific extremist movement or ideology in time and space.

The paper aims are three-fold. First is to raise awareness. Perpetration of violence by women appears underestimated by the general public, the media, as well as by security experts (Conway & Mcinerney, 2012; Jacques & Taylor, 2009). As such, unmasking key negative implications of female extremist leaders in addition to questioning existing stereotypes would plausibly sensitise the public and ignite key counter-extremism policy debates and actions across multi-level actors. Secondly, we propose 3 tailored conceptual models that can be finetuned by interested stakeholders to (re)frame, plan and target counter-extremism and/or de-radicalisation actions. While it is impossible to eliminate violence, working on defusing some critical elements could help minimise or prevent potential losses and damages due to extremist attacks

(O’Neil, 2010). Thirdly, we fill a knowledge gap and particularly, contribute to the literature on women, leadership, and extremism. The nature of female leadership in violent extremism is hardly researched to the best of our knowledge.

A key challenge facing existing related research is the lack of useful primary data while existing secondary information is either old, partial and/or not open-source, particularly given the underlying sensitivities around the topic (Gonzalez-Perez, 2008; Jacques & Taylor, 2012; Sageman, 2004). As such, findings based on available secondary sources are prone to confirmation bias, false information and misinterpretation (Sageman, 2004). Existing related research also lacks robust conceptual basis that result in incomplete theories on female extremism (Vogel, Porter, & Keibell, 2014). Additionally, both “violent extremism” and “terrorism” concepts are often used interchangeably without further distinctive discussion.

This paper relies on detailed expert interviews that offer useful insights on the main characterisation and impacts of female extremist leadership. While the paper targets women leaders, it does not focus on the underlying biological difference between females and males. Rather, it refers to the social construct of gender that sets, changes, enforces and represents the perceived membership to the category “women” or “men” (Gentry & Sjoberg, 2015). As such, the paper focuses on the societal understanding of women (above 18 years), notably through stereotypes, media framings and, as perceived by specific extremist groups. The words “female” and “woman” are interchangeably used throughout the paper.

The following section unpacks the main paper concepts with a focus on the underlying risks posed by women-led violent extremism. Section 2 discusses the study design, while sections 3 and 4 outline the paper’s results and limitations. Section 5 concludes the paper.

1.1 What is violent extremism?

Often, the word “terrorism” is interchangeably used with “violent extremism” (Fink, Barakat, & Shetret, 2013). This can be misleading as the same ideological group can be tagged with different names (a terrorist or a freedom fighter) depending on the specific conceptualisation of a particular researcher and/or decision-maker (Fink et al., 2013).

The lack of a common understanding of what entails “terrorism” or “violent extremism” makes comparisons difficult and confusing (Fink et al., 2013). In other cases, the term “terrorism” is highly politicised, emotionally charged and often resulting in serious stigmatisation that plausibly discourages researchers (among other interested actors) from studying the issue in much detail (Fink et al., 2013; Matusitz, 2013).

This does not imply that researchers should shy away from engaging the subject. Rather, research is needed to counteract existing biases and actively inform evidence-based decision making at different levels (local to global). This paper considers “terrorism” as a form of “violent extremism” along with other types of aggressive actions such as revolutions, separatist movements, organised militia and guerrilla warfare. To define “violent extremism”, we first examine existing literature to understand (i) who can be a violent extremist? (ii) what can be violent extremism? (iii) against what could violent extremism happen? (iv) how can violent extremism manifest? and (v) why or for which reasons violent extremism can occur? While table 1 does not exhaustively review all related available literature, it provides useful insights that can help consolidate a common understanding of “violent extremism”.

Table 1: Defining violent extremism

Dimension	Features	References
Who can be a violent extremist?	Non-state actor (<i>powerful group or individual partially/wholly independent of state government</i>)	Cragin & Daly, 2009; Institute for Economics & Peace, 2016; O’Neil, 2010; Zimmermann, 2009.
	Subnational group or a clandestine agent (<i>concealed operator</i>)	Dalton & Asal, 2011; Institute for Economics & Peace, 2016; Zimmermann, 2009.
	State government	Gonzalez-Perez, 2008.
What can be violent extremism?	Actual use of violence	Aven & Guikema, 2015; Cragin & Daly, 2009; Dalton & Asal, 2011; Gonzalez-Perez, 2008; Hoffman, 1995; Institute for Economics & Peace, 2016; Laster & Erez, 2015; Matusitz, 2013; O’Neil, 2010; Suttan, 2009; Yarchi, 2014; Zimmermann, 2009.
	Threat of violence	Aven & Guikema, 2015; Dalton & Asal, 2011; Gonzalez-Perez, 2008; Hoffman, 1995; Hofmann, 2015; Institute for Economics & Peace, 2016; Yarchi, 2014; Zimmermann, 2009.
	Asymmetrical deployment of threats and/or violence (<i>as a weapon of the weak</i>)	Dalton & Asal, 2011; Hofmann, 2015; Matusitz, 2013; Zimmermann, 2009.
	Premeditated or intentional acts	Institute for Economics & Peace, 2016; Matusitz, 2013; Zimmermann, 2009.
	Indirect strategies (<i>violence used to distribute a message</i>)	Zimmermann, 2009.
Against what could violent extremism happen?	Non-combatant actors (<i>civilians, icons, cultural heritage, etc</i>)	Dalton & Asal, 2011; Gonzalez-Perez, 2008; Laster & Erez, 2015; Matusitz, 2013; O’Neil, 2010; Zimmermann, 2009.
	Section(s) of the public (<i>e.g. school kids</i>)	Hofmann, 2015; Zimmermann, 2009.
	Political entities	Hofmann, 2015.
How can violent extremism manifest?	Fear, coercion or intimidation	Aven & Guikema, 2015; Hofmann, 2015; Institute for Economics & Peace, 2016; Laster & Erez, 2015; Matusitz, 2013; Suttan, 2009; Yarchi, 2014; Zimmermann, 2009.
	As a violation of international humanitarian law (<i>treaties & conventions e.g. the Geneva conventions, UN Convention of Justice</i>)	Institute for Economics & Peace, 2016; Zimmermann, 2009.
Why or for which reasons violent	Political aims (<i>e.g. to change policies, regimes</i>)	Aven & Guikema, 2015; Cragin & Daly, 2009; Dalton & Asal, 2011; Gonzalez-Perez, 2008; Hofmann, 2015; Institute for Economics & Peace, 2016; Kydd & Walter, 2006; Laster & Erez, 2015;

extremism can occur?		Matusitz, 2013; Suttan, 2009; Yarchi, 2014; Zimmermann, 2009.
	Religious aims	Aven & Guikema, 2015; Hofmann, 2015; Institute for Economics & Peace, 2016; Laster & Erez, 2015; Matusitz, 2013.
	Influence a specific audience by distributing a particular message and by attaining publicity for a cause	Dalton & Asal, 2011; Institute for Economics & Peace, 2016; Kydd & Walter, 2006; Laster & Erez, 2015; Matusitz, 2013; Zimmermann, 2009.
	Ideological change	Aven & Guikema, 2015; Hofmann, 2015; Laster & Erez, 2015; Matusitz, 2013.
	Social aim	Institute for Economics & Peace, 2016; Suttan, 2009.
	Economic aim	Institute for Economics & Peace, 2016.
	Symbolic aim	Zimmermann, 2009.

Source: Authors, 2020

As noted in table 1, individuals, clandestine agents as well as governments can instigate and advance violent extremism against diverse subjects and, for a myriad of reasons that can range from socio-economic, ideological, political, symbolic to religious causes. In this paper, “violent extremism” refers to: *“non-state actors perpetrating or threatening to use violence intentionally and asymmetrically on non-combatants to instil fear, intimidation or coercion and, in order to attain a political, religious or ideological change, as well as influence particular audiences.”* Our definition is based on the most prevalent characteristics found in existing literature (features reported by at least four distinct authors in table 1).

1.2 Women engagement in violent extremism

Women are equally motivated as men to join violent extremist groups (Bloom, 2016; Cragin & Daly, 2009; Jakana & Kanisha, 2015; Orav, Shreeves, Radjenovic, & Lopez, 2016; Von Knop, 2007). Throughout history, women voluntarily participated in revolutions either behind the scenes or on the frontline (Bloom, 2016; Bloom, Gill, & Horgan, 2012; Brussels International Center, 2017; Henshaw, 2015). In several instances, women lead extremist groups including the *Black Widows* in Chechnya, the *Liberation Tigers of Tamil Eelam (LTTE)* in Sri Lanka, the

Italian *Prima Linea*, the *Dukhtaran-e-Millitat (DeM)* in Pakistan, the *Revolutionary Armed Forces of Columbia (FARC)* and the *Red Army Faction (RAF)* in Germany (Cragin & Daly, 2009). In early 2000, extremist groups started advancing the involvement of women especially for less obvious functions including suicide bombing (Raghavan & Balasubramanian, 2014). Secular and leftist organisations seem more flexible to engage and endorse women leaders (Cunningham, 2003; Dalton & Asal, 2011; Jacques & Taylor, 2009; Nacos, 2005; Reed & Jakana, 2017). This is largely supported by the specific organisation's functional pursuit of fighting and undoing demeaning norms and/or traditions to subsequently renew or/and change society (Ness, 2005). This can be exemplified by several women that founded and headed leftist organisations including *Euskadi Ta Askatasuna (ETA)* in Spain and the *Red Brigades (RB)* in Italy (Cragin & Daly, 2009; Cruise, 2016).

On the other hand, women are thought to face more hurdles in right-wing or religious violent organisations (Cunningham, 2003; Dalton & Asal, 2011; Jacques & Taylor, 2009; Nacos, 2005; Reed & Jakana, 2017). This can be explained by the organisations' tendency to be more conservative and adhering strongly to religious traditions where female leadership is largely unseen (Dalton & Asal, 2011; Gentry & Sjoberg, 2015).

A recent paradigm shift has however seen more inclusion of women leaders in several religious and right-wing groups (Bloom, 2016; Bryson, 2018; Cunningham, 2007; Laster & Erez, 2015; Raghavan & Balasubramanian, 2014). Women have been reported to gain greater access to "hard-tasks" (more active participation in couriering, fundraising, decision-making) compared to "soft-tasks" (less visible and covert participation as mothers or in domestic chores) (Cruise, 2016). This shift can notably be explained by particular extremist group's aims and strategies (Gonzalez, Freilich, & Chermak, 2014). Domestic extremist groups would for instance engage

women as warriors or in suicide-bombing while women act as spies or as mere sympathisers in international extremism (Gonzalez-Perez, 2008). In other instances, extremist groups involve women for operational benefits (Dalton & Asal, 2011; Margolin, 2018; Parashar, 2011). For example, some Palestinian extremist organisations changed their opinion on female actors after the successful suicide attack by Wafa Idris who was affiliated to the *al-Aqsa Martyrs Brigades* in Jerusalem (Ponzanesi, 2014). Such act empower(ed) other women to imitate. An empiric study (Jakana & Kanisha, 2015) shows that group demand for women participants correlates positively and strongly with women's participation.

Increased acceptance of women in extremist organisations should not be mistaken with a fundamental shift in attitude in the larger society (Davis, 2006). While both genders contribute to violent extremism, men are of most concern to specific government authorities (Huckerby, 2015). This denial has largely been fueled by gender stereotypes and western media framings that make women-instigated violent extremism unlikely (Conway & Mcinerney, 2012). While media reporting varies in space and time, the present work solely considers the impact of western media on female extremism due to the authors' language limitation that led to a focus on English and French media/literature.

Stereotypes are shared impressions regarding individuals or members of specific groups or entities (Leyens & Scaillet, 2012). These dominant narratives create heuristics that plausibly shape society's understanding of particular individuals, groups or events (Gentry & Sjoberg, 2015). Women have to overcome two sets of stereotypes; those related to their involvement in violent extremism and those associated with their potential leadership of such groups (Eagly, 2007). Women are sometimes thought to be leaders of violent extremists groups only through marriage and/or family relations with male extremists members, rather than by their own merit (Cragin & Daly, 2009). Women have also been perceived as peaceful, cooperative and less

confrontational and thus, unlikely to lead rebellious actions and/or ideals (Anita, 2016; Von Knop, 2007).

Following Gentry & Sjoberg (2015), female extremist leaders have broadly been depicted as: mothers, monsters and/or whores. *Mothers* refer to the traditional understanding of women as wives and/or mothers, who would use violence to support or avenge for their loved ones. *Monsters* are perceived as deviant women who lack emotions and are devoid of their femininity. *Whores* denote women who are stereotyped to head or participate in violent extremism as a form of deviance from their inability to have children or being coerced by men. Such divergent narratives mask the complexity and individuality of women and bias societal understanding of female leaders (Gentry & Sjoberg, 2015).

In other cases, media frame male and female violence perpetrators differently – where female extremists are reported as an exception to the rule that contradicts dominant worldviews about the ‘correct’ role of women (Brown, 2018; Conway & Mcinerney, 2012). Nacos (2005) uncovered six frames that have been used to explain extremist female actions by western media. Firstly, media draws from female extremists’ physical appearance to dramatise the contrast between their physical beauty and their violent actions. Secondly, extremists’ family connections are investigated in attempts to link their actions to those of other extremists family members or social networks. Thirdly, extremists actions are associated with the perpetrators’ (i) love for a specific organisation or ideology or (ii) lack of love in case of known failed social relationships. Fourthly, media often explains female extremist actions as part of their strong statements against gender inequality among other basic human rights. The fifth frame depicts female extremists as tough as males or tougher than men implying that the specific violent perpetrators only represent a few women whose actions are contrary to particular traditional

gender norms. Sixthly, female extremists are portrayed as bored, naïve and out of touch with rational critical thinking (Nacos, 2005).

These narratives and framings delegitimise women’s agency in instigating and sustaining violent extremism (Brussels International Center, 2017; Margolin, 2018; Ortals & Poloni-Staudinger, 2016). Women end up being depicted as mere followers of violent extremist organisations or as victims of extremism once affected or involved in extremist acts (Cunningham, 2003; Jacques & Taylor, 2008; Spencer, 2016; Vogel et al., 2014). Nonetheless, some women have confessed to willingly engaging in extremism motivated by their own ideological beliefs and/or ambitions (Thomson, 2016). Table 2 summarises diverse responsibilities that women have held within violent extremist groupings.

Table 2: Overview of roles assumed by women in violent extremist groupings

Roles assumed	Description of identified role(s)	Reference
Sympathisers	Basic chores (<i>engaged in household tasks e.g. cooking, providing safe housing</i>)	Cragin& Daly, 2009; Jacques & Taylor, 2009; Vogel et al., 2014.
Mothers	(a) Symbolic value (b) Procreation of the next generation militants	Bakker &Leede, 2015; Cruise, 2016; Parashar, 2011; Spencer, 2016.
Wives	(a) Support husband (b) Enhance family formations (<i>e.g. through arranged marriages</i>) (c) Cooperate with husbands in advancing extremist actions (<i>though some wives are never aware of their husband’s daily engagements</i>)	Bakker &Leede, 2015; Parashar, 2011; Sageman, 2004; Vogel et al., 2014.
Educators	(a) Enhance skills of next generation militants (b) Historical conscience (<i>avoid knowledge erosion</i>)	Cragin & Daly, 2009; Vogel et al., 2014; Von Knop, 2007.
Students	Learn how to become good mothers, wives, recruiters, spies, leaders, etc.	Spencer, 2016.
Capacity supporters & logistic managers	(a) Couriers (b) Ideological support and moral support	Cragin& Daly, 2009; Cruise, 2016; Cunningham, 2003.Parashar, 2011; Spencer, 2016; Suten, 2009; Vogel et

		al., 2014; Von Knop, 2007.(Alexander, 2016)
Authors of distractive strategies & messages	Lure the police among other interested parties including the public	Cragin & Daly, 2009; Cruise, 2016; Vogel et al., 2014.
Direct combatants	Execute and carry out attacks	Bakker & Leede, 2015; Cragin & Daly, 2009; Cruise, 2016; Parashar, 2011; Suttan, 2009; Vogel et al., 2014.
Suicide bombers	Carry out bomb attacks	Cragin& Daly, 2009; Cunningham, 2003; Jacques & Taylor, 2009; Vogel et al., 2014; Yarchi, 2014. (Salem, 2015)
Skilled technical workers	Including being doctors, nurses, teachers, engineers, tailors, etc.	Bakker & Leede, 2015; Spencer, 2016; Vogel et al., 2014.
Financial managers (<i>fundraise, manage group budgets</i>)	Long-term tasks such as those related to financing are often delegated to women as men are highly likely to be killed or arrested and thus, unreliable in the long-run.	Cruise, 2016; Vogel et al., 2014; Von Knop, 2007.(Alexander, 2016)
Recruiters	(a) Gather more followers and encourage others to join (<i>both men and women</i>) (b) Spread organisational ideology	Bakker & Leede, 2015; Cragin & Daly, 2009; Cruise, 2016; Cunningham, 2003; Raghavan & Balasubramaniyan, 2014; Spencer, 2016; Vogel et al., 2014; Von Knop, 2007.
“Fan girls” (“<i>fan boys</i>” also exist)	Temporary members that lack sincere ideological commitment but follow for their notoriety. This new role has emerged along with the success of the social media (<i>e.g. use of twitter</i>)	Huey & Witmer, 2016.
Spies & intelligence gatherers	Penetrate more deeply into their target and solicitate useful information	Cunningham, 2003; Jacques & Taylor, 2009; Parashar, 2011; Suttan, 2009; Vogel et al., 2014.
Law enforcement officers	Punish others in case of law violations (<i>e.g. trespassing</i>)	Spencer, 2016.
Political representatives & political activists	Engage in active political debates, advocacy and policy making	Cragin& Daly, 2009; Parashar, 2011; Spencer, 2016;Vogel et al., 2014.
Founders, leaders & decision-makers (<i>vertical & horizontal leadership</i>)	(a) Actively participate in organisational decision-making (b) Establish violent entities and/or hold positions of power and influence over others	Cragin& Daly, 2009; Cruise, 2016; Hamilton, 2007; Jacques & Taylor, 2009; Sageman, 2004; Spencer, 2016; Suttan, 2009; Vogel et al., 2014

Technology specialists & innovators	Use and develop new technologies (<i>extremism is a weapon of the weak, where innovation appears necessary to oppose external pressures and assure specific group's survival</i>).	Cunningham, 2007; Dalton &Asal, 2011; Institute for Economics & Peace, 2016; Zimmermann, 2009; Alexander, 2016.
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Source: Authors, 2020

1.3 What is (women) leadership?

Globally, women ascend to leadership positions has largely been mired by pushbacks that stereotypically discredit their abilities but advance men’s authority and potential to lead (Eagly, 2007; Sharon & Spickard Prettyman, 2008). For a long time on the other hand, leadership standards were benchmarked on being white and male - which resulted in biases towards people who did not fit such leadership thresholds including women (Hoyt & Murphy, 2016).

Societal expectations – many of which are founded on stereotypes, religious and/or cultural norms - endanger women’s access (and maintenance) of leadership positions and particularly, in contexts where female leaders are uncommon or inexistent (Eagly, 2007). Some have argued that, because women have a harder time attaining leadership positions, those who succeed would need to be more qualified, stronger, resistant and resourceful - when compared with their male peers (Eagly, 2007). In extremism moreso, women have to strongly overcome two kinds of stereotypes: one related to their “doubtable” leadership potential and, the other linked to their suitability in violent extremism.

To rightly advance women leadership, it is key to acknowledge and account for societal biases and realise that such gendered cultural, religious and/or media constructs are largely responsive to change and adapt over time (Eklund, Barry, & Grunberg, 2017). Besides manifesting at the top-levels of specific movements or organisations, leadership also happens at other diverse levels away from formal vertical ranks, titles or positions. It occurs (i) among friends, families,

colleagues and communities, (ii) across informal hierarchies and groups, (iii) within and outside organisations and, (iv) with or without management responsibilities (AAUW, 2016; Henshaw, 2015). There exists different types of leaders depending on particular positions held, one's personality, charisma, moral authority, intellectual contribution and on the underlying power held (AAUW, 2016). Often, power is contingent on the dominance of societal networks, relationships and is founded on multiple sources (economic, socio-cultural and historical) (Kauppinen & Aaltio, 2003).

Cautious of these leadership characteristics as discussed by several authors (Almaki, Silong, Idris, & What, 2016; Eklund et al., 2017; Hoyt & Murphy, 2016; Kauppinen & Aaltio, 2003), this paper understands (women) leadership to constitute *personal influence over others with abilities to impact on behaviour, cognition, motivation and aimed at achieving goals that benefit the individual and/or group.*

1.4 Probable security risks posed by women leaders in violent extremism

As counter-extremist security instruments are often designed to surveil, identify and curb male perpetrators, such would imperfectly fit potential female extremists who would easily slip past security structures, unnoticed (Brown, 2018; Cragin & Daly, 2009; Suttan, 2009). Indeed, female extremists can have easier access to their targets as they raise less suspicion, undergo less scrutiny and often lack thorough investigation (Cragin & Daly, 2009; Cunningham, 2003; Jacques & Taylor, 2009; Laster & Erez, 2015; Suttan, 2009). Women clothing can help hide extremist messages or even explosives (Bloom, 2016; Cragin & Daly, 2009; Cruise, 2016; Laster & Erez, 2015; Suttan, 2009).

Female perpetrators of violence attract more media attention and trigger stronger emotional reactions from the public including surprise, fear, but also sympathy and publicity (Bloom, 2016; Cunningham, 2007; Nacos, 2005; Raghavan & Balasubramaniyan, 2014; Salem, 2015; Suttan, 2009). Women participation can be perceived as a sign of seriousness of particular organisational cause and subsequently influence its increased societal acceptance (Laster & Erez, 2015). This can result in the specific women being presented as symbols of the extremists' cause (Jacques & Taylor, 2009).

Female extremists have been found to be better recruiters (Brown, 2018; Raghavan & Balasubramaniyan, 2014). Extremist women can become role models and empower others to join a cause (Von Knop, 2007). In certain ideologies (e.g. Islamic jihad), the appeal of hypersexuality can motivate some men to join (Parashar, 2011; Thomson, 2016). In conservative societies, women engagement can evoke a feeling of guilt and shame among non-participating men inciting the latter to engage (Cragin & Daly, 2009; Davis, 2006; Laster & Erez, 2015).

On the other hand, female extremists can motivate and contribute to group's stability and viability (Cragin & Daly, 2009; Cunningham, 2007; Jacques & Taylor, 2009; Suttan, 2009; Von Knop, 2007). In some extremist groups, the symbolic value of being a mother can explain their ability to recruit, mobilise and, provide legitimacy to specific extremist organisations (Dalton & Asal, 2011; Parashar, 2011; Spencer, 2016). Women leaders, and especially mothers, are the primary educators of young militants (Cragin & Daly, 2009; Suttan, 2009) and are often required to oversee other women in conservative and patriarchal organisations where men are not supposed to interact with women (de Leede, 2014).

In some cases, women active participation in extremist organisations partly results from strategic calculations, especially based on three factors: the organisation’s propaganda, women effectiveness and ensuing community backlash (Cragin & Daly, 2009). Women present untapped resources that can add onto militant numbers or can be used in advancing new tactics (Bloom et al., 2012; Cragin & Daly, 2009; Jakana & Kanisha, 2015).

Table 3 summarises these risks that should be taken into account when designing and, implementing counter-extremist measures at local, regional and global levels.

Table 3: Overview of some potentials risks associated with female in violent extremism

Underlying risks	Reasons	References
Threats to security (to the detriment of society)	(a) Male-oriented security surveillance instruments and profiling. (b) Less scrupulous investigation of potential female extremists. (c) No/minimal suspicion of potential female extremists. (d) Disregard of key intelligence sources (e.g. women clothing).	Cragin & Daly, 2009; Cunningham, 2003; Jacques & Taylor, 2009; Suttan, 2009
Increased western media attention and emotional reaction (benefiting largely extremist groups)	(a) Increased media coverage that can create publicity and/or sympathy. (b) Sensationalism. (c) Reaction of shock and surprise from the public. (d) Creation of female symbols for specific violent causes.	Cunningham, 2007; Jacques & Taylor, 2009; Nacos, 2005; Raghavan & Balasubramaniyan, 2014; Suttan, 2009
Enhanced motivation among extremist groups (benefiting largely extremist groups)	(a) Ability to recruit (as <i>role models</i> or as a result of <i>empowerment, hyper-sexuality, guilt & shame</i>). (b) Women’s favor for group stability and viability (e.g., <i>primary educators, symbolic value through motherhood, supervision of other women</i>).	Cragin & Daly, 2009; Cunningham, 2007; Dalton & Asal, 2011; Davis, 2006; Jacques & Taylor, 2009; Parashar, 2011; Raghavan & Balasubramaniyan, 2014; Spencer, 2016; Suttan, 2009; Thomson, 2016; Von Knop, 2007;
Efficient use of target-sets (benefiting largely, extremist groups)	(a) Increased number of militants. (b) Innovation. (c) Strategic calculations.	Cragin & Daly, 2009; Cunningham, 2003; Jacques & Taylor, 2009; Suttan, 2009; Raghavan & Balasubramaniyan, 2014

Source: Authors, 2020

2. Study design

2.1 Study aim and questions

This paper seeks to characterise female leadership in violent extremism; from its emergence to its subsequent consequences (see figure 1). Three research questions guide the study.

2.1.1 Which conditions lead to the emergence of female extremist leaders?

According to Cragin and Daly (2009), the likelihood of female participation in extremism depends on propaganda, community backlash and effectiveness. The latter is understood as the functional advantage associated with female extremists, where an extremist group can tactically place a woman in an influential position to make an unsuspected move. Not only would women increase media attention, but they would be in a position that is the most contradictory to stereotypes (Cragin & Daly, 2009; Nacos, 2005). In answering this question, we identify, suggest and discuss other enabling aspects that can facilitate, support and enable female extremist leadership.

2.1.2 Which type of leadership is the most common for female extremists?

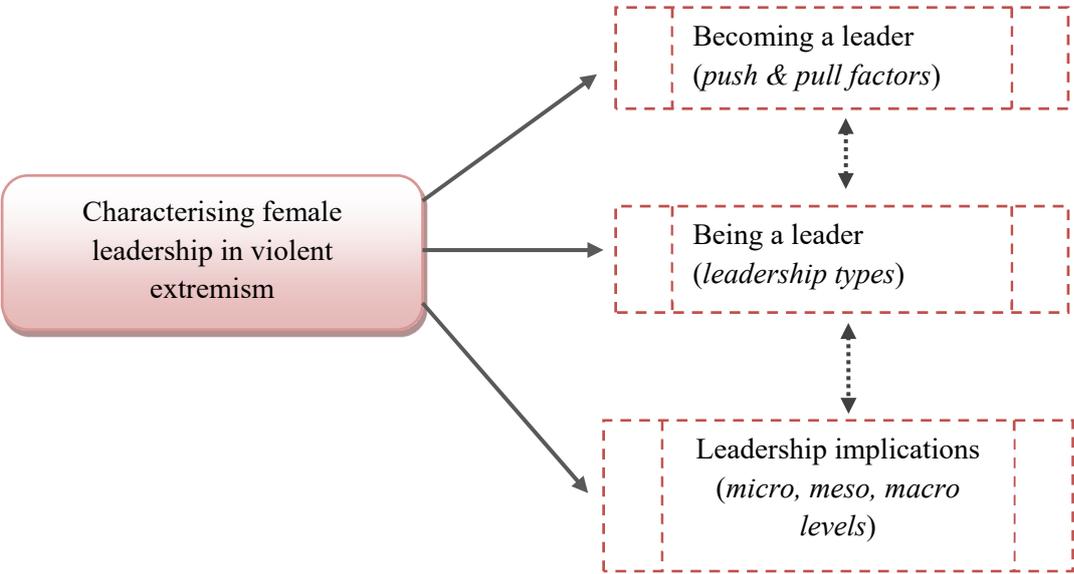
Cragin and Daly (2009) distinguish operational female leaders (actively involved in the fighting) from political vanguards (shaping specific organisation's ideology). We further explore such distinctions in addition to discussing other kinds of female leadership traits. We posit that female operational leadership is the most common type for four reasons. First, women enjoy tactical advantages that are the most useful in operations (better decoy, less scrutiny, etc.). Second, it is believed that women would be the most knowledgeable on how to profit from their own advantages. Third, terror attacks caused by women are very startling for the public and female leaders would create a dramatic showcase for the extremist organisation. Fourth, extremist groups are increasingly using networks rather than hierarchical structures (Hamilton,

2007; Sageman, 2004). Hence, as the number of operational extremist cell leaders' increase, the more opportunities will accrue for the emergence of female leadership.

2.1.3 What are the main consequences of female extremist leaders?

We examine the main implications of female extremist leadership at the micro-level (on the women themselves), meso-level (on related extremist organisations or entities) and at the macro-levels (on society as a whole). See figure 1.

Figure 1: Emergence of female extremist leaders and their subsequent implications



Source: Authors, 2020

2.2 Data collection and analysis

Being largely an unexplored subject, we relied on in-depth expert semi-structured interviews to collect first-hand ideas, opinions and knowledge on the interaction between violent extremism and other cross-cutting themes including gender, leadership, human rights and security, worldwide. We contacted - via email - 75 experts who were knowledgeable on these themes

from diverse geographical contexts (Africa, Asia, Europe, Middle East, North and South America) for wide spatial coverage and knowledge triangulation. Since underreporting is among the main challenges facing the present themes under investigation (Jacques & Taylor, 2009) diverse expert views' triangulation plausibly helps us minimise existing knowledge biases (Reiter, 2014) and maximises the findings' validity (Hofmann, 2015).

We reached out to different experts active in related think tanks, research centers and consultancies within governmental, non-governmental and/or private sector settings. Experts were identified either through their related published research, job profession and/or by snowballing following recommendations by other specialists. To provide a global outlook on female extremist leadership, we adopted a neutral stance without a specific focus on particular extremist groups, individuals and/or geographical regions.

20% of the contacted experts consented to our request and were interviewed through Skype/Whatsapp¹ (11) or via e-mail (4). For the experts who could not participate, some were not available for the interviews or were busy elsewhere, others did not believe to have sufficient experience and knowledge on the study topics and, a few did not respond to our multiple reminders. Voice interviews were recorded using Audacity(R)² software for further detailed transcription upon approval by particular interviewees. Interviews lasted between 28 minutes to 1.5 hours. Interviews were conducted in English and/or French. Same interview guides were used for all interviews (written, oral). Experts had the possibility to review their responses before the compilation of the final findings. Table 5 provides an overview of all interviewed experts with information on their expertise, years of experience and key policy focus.

¹ Telecommunication software developed by *Skype Technologies* (<http://www.skype.com/en/>) and by *WhatsApp Inc.* (<https://www.whatsapp.com/?l=en>), respectively.

² Audio recording and editing software developed by the Audacity team (<http://www.audacityteam.org/>).

A verbatim approach (word-by-word) was used to transcribe verbal interviews – that were subsequently coded and analysed with the use of ATLAS.ti software³. Each code was clearly defined and compiled into a codebook. This helped identify and analyse individual coded themes as well as explore relevant patterns and commonalities across thematic codes. Data analysis was confined to semantic theme investigation - where the explicit meaning of interview data was solely coded without further interpretation by the researchers.

Table 4: List of interviewed experts

Name	Expertise	Years of experience	Other remarks
IE ₁	Gender, security, fragile and conflict-affected regions, Africa, Middle East	5	NGO and policymaker perspective
IE ₂	Gender, role of civil society, counter violent-extremism, South and East Asia, East and West Africa	5	NGO and policymaker perspective
IE ₃	Gender, social movements, race and racism, sociology	40	Sociological perspective
IE ₄	Gender, political violence, religion	<i>ng</i>	Specialist on Islam
IE ₅	Security challenges, intelligence, Middle East	8	Political analyst
IE ₆	Gender, counter-terrorism, Islam	5	Ethnographic research; Consultant for the French government
IE ₇	Gender, counter-terrorism, violent extremism, MENA region (esp. Yemen)	7	Canadian security policy
IE ₈	Gender, political violence, history	4	Historical perspective
IE ₉	Gender, counter-terrorism	1	Focus on propaganda materials
IE ₁₀	Gender, counter-terrorism	17	Focus on discursive construction of extremism
IE ₁₁	Counter-terrorism, ethno-nationalist conflict, international relations, human rights, religion in terrorism	17	Specialist in international relations and comparative politics
IE ₁₂	Gender, political violence, militant jihadism, Middle East	5	Ethnographic research in the Middle East on the role of women in jihadi organisations
IE ₁₃	Resistance, power, political violence, protest, social change	10	Interdisciplinary approach

³ Qualitative data analysis software by Scientific Software Development GmbH (<http://atlasti.com/>).

IE ₁₄	Gender, political violence, South Asia	15	Ethnographic research in Kashmir
IE ₁₅	Counter-terrorism, political violence, conflict resolution and transformation, negotiation, Europe, Southeast Asia, Middle East	<i>ng</i>	Ethnographic research in the Philippines and Northern Ireland

IE: interview expert, *ng*: not given.

Source: Authors, 2020

3. Study results and discussion

3.1 (Re) Emergence of female extremist leaders: Conditions and enabling factors

Presently, female extremist leaders are rare or unlikely. This can be explained by the fact that there exist fewer women in extremism compared to men and that the number of possible women leaders is restricted (IE₅). Secondly, the number of left-wing groupings that are prone to offer more space for women involvement has been decreasing (IE₁₅). Thirdly, the rise of women leaders in religious extremist groupings is unlikely owing to the groupings' gender-based conservatism and ideologies that restrict women's agency (IE₅; IE₄). Yet, the sole focus on conservative and/or religious-based extremism might severely distort counter-extremism strategies and actions. As noted by IE₄, such "*limited scope in today's extremism conceal other emerging violent movements and realities*".

While uncertainty overshadows discussions on possible women extremist leadership in contemporary contexts, IE₃ and IE₁₃ argue that an increase in such leadership is within the bounds of high possibility. The following section discusses several factors that plausibly enable the emergence or re-emergence of female extremist leaders. These factors depend on the (i) individual women characteristics, (ii) specific extremist groupings and/or (iii) particular contexts (figure 2).

3.1.1 Enabling factors & conditions related to individual female leaders' characteristics

Kinship. Women access to higher-level positions can be facilitated by kinship and mostly, by their relationship with a man active in a particular extremist grouping. In jihadist groups, IE₆ observes the importance of the husband on the wife's status and legitimacy - depending on the significance of his actions for a particular extremist cause. Extremist groups are increasingly trying to show that their movement involves everyone, including women (IE₁₄). Through kinship and motherhood, groups can easily do so, without actual changes to women status in the group (IE₁₄). Besides, mothers are perceived as very inspirational and respected figures, notably in recruitment and group cohesion.

Individual traits. Individual features such as charisma, exceptional willingness and abilities to support a particular cause are necessary for prospective women as well as male leaders (IE₂). As advanced by IE₇, "*both males and females in an organisation are generally motivated by the same factors, and their willingness to participate in different roles is not necessarily always particularly diverse*". As such, individual enabling leadership traits are largely gender-insensitive.

3.1.2 Enabling factors & conditions related to a particular extremist organisation

Ideology and agenda (right/left-wing). 87% of the experts agreed that the group's ideology and agenda play a significant role in advancing or hindering (re)emergence of female leaders. According to IE₅, interested stakeholders should identify and understand underlying extremist organisational goals and vision for cues on possible roles or position of female members. In addition to being sympathisers, mothers and wives; extremist groups that intend to build a State such as ISIL need women to fulfil functional needs (IE₁₂). For example, developing a

hierarchical structure requires a chain of command with women automatically managing other women (IE₁₂).

Extremist ideologies manifest on a continuum of likelihood: with left-wing secular groups being on one extreme and right-wing religious groups on the opposite extreme. Left-wing secular groups are the most likely to embrace the (re)emergence of female leaders given their greater tendency to promote equality or to expect uniform participation by its members (IE₁₀). More so, acceptance of female leaders is likely within nationalist terror groups (IE₂, IE₇), as history provides the examples of the ETA or the LTTE (IE₂, IE₈). Right-wing religious groupings have a more restrictive female participation. Leadership on operational issues in military wings of an extremist group can be distinguished from leadership in political wings dealing on non-military issues (IE₁₂). In a group such as ISIL, women have easier access to political wings rather than military ones (IE₁₂).

Structure (hierarchy vis-à-vis cell). Loose structures using a network of cells facilitate female leadership because of the restricted group size and tasks (IE₂, IE₄). A cell is at the smallest tactical level of an extremist organisation highlighting the importance of the group's size for the participation of women (Hamilton, 2007; Jakana & Kanisha, 2015). Nevertheless, such cases may not always hold true as exemplified by the cases of Al-Qaida and Jemaah Islamiyah in Southeast Asia that consist of loosely networked organisations with very few or no women leading cells (IE₈).

In other cases, women leadership roles are confined to more rigid structures, in line with the extremist group's agenda and ideology (IE₇). In jihadi extremist groups where mixing of sexes is prohibited, female leadership is for example restricted to female-only units in gender-

segregated parallel institutions and vertical women-only chains of command (IE₁₂; IE₇) (Khelghat-Doost, 2017).

Tactical needs. The underlying tactical demands, strategies and the groups' agenda can motivate or necessitate the use of female members for the effective execution of varied violent missions (Jakana & Kanisha, 2015). IE₁₄ advances the importance of legitimacy that women, especially mothers, provide to nationalist conservative movements or right-wing groups whose mission could be to build nation-states like ISIL (IE₉). In other cases, women are engaged in violent missions as a last resort e.g. with the shortage of male fighters or as a means to ensure organisational continuity (IE₄).

Owing to stereotypes, women can enjoy a competitive advantage over men; where they can plan and execute operations without raising significant suspicion. According to IE₁, "*women themselves understand this paradox in their favour and sometimes see this as an empowering mechanism.*" While this might favour women in the frontline, it may not necessarily hold true for other roles including their long-term group's leadership (IE₈). Nonetheless, female leaders present a different complex target – also for security forces (IE₁₃).

Narrative. Besides groups' underlying ideologies, their day to day rhetoric or narrative is paramount in advancing or hindering women participation in extremism. As IE₁₁ puts it, "*the group itself must welcome women's meaningful participation*". Narratives can be used to encourage female participants for subsequent recruitments or to promote a certain group's public image (IE₁₅; Jakana & Kanisha, 2015).

Narratives evolve overtime. Wafa Idriss, the first female Palestinian suicide bomber in the Israeli-Palestinian conflict in 2002, was repeatedly mentioned by more than 50% of the

respondents. Initially, Palestinian extremist groups forbade female perpetrators of violence. Wafa Idriss' attack, however, created a shift in their narrative - allowing for more female participation. As such, flexibility in narratives leaves space for potential women engagement in new or higher leadership extremist positions (IE₄).

Favourable rhetoric can emerge from an endorsement by authoritative figures who publicly acknowledge women as leaders and offer justification for their presence in extremist communities. IE₉ found traces of this in propagandist materials of jihadist groups. For example, Umayma Hassan Ahmed Muhammad Hassan, wife of the Al-Qaida leader Ayman al-Zawahiri, addressed Muslim women in December 2009. In her letter, she talks about the different roles for women in jihad, notably as mothers and wives, but also, as fighters in times of need.

On the other hand, narratives do not deviate much from a particular group's ideology as such would undermine the extremist cause and its male-support (IE₆; IE₁₀; IE₄). To exemplify, IE₄ explains that if a jihadist group started to advocate for gender equality, the group would drastically differ from its ideological underpinnings, creating a completely new movement rather than a mere shift in narrative. As the literature shows nonetheless, with the example of Boko Haram, one extremist group should not be considered as one sole entity and it might be that factions have opposing views on the involvement of women (Rachel & Audu, 2018).

3.1.3 Enabling factors & conditions related to specific contexts

Societal background. The broader societal setting i.e. the culture, politics or social norms – potentially influence the likelihood of female extremist leadership (IE₁₃). Being a female leader is more demanding and constantly challenged in comparison to a male leader (IE₁₁). Stereotyped-views of inferiority can be psychologically burdensome for women and can

contribute to their underrepresentation (Eagly & Karau, 2002; Heilman, 1995; Hoyt & Murphy, 2016).

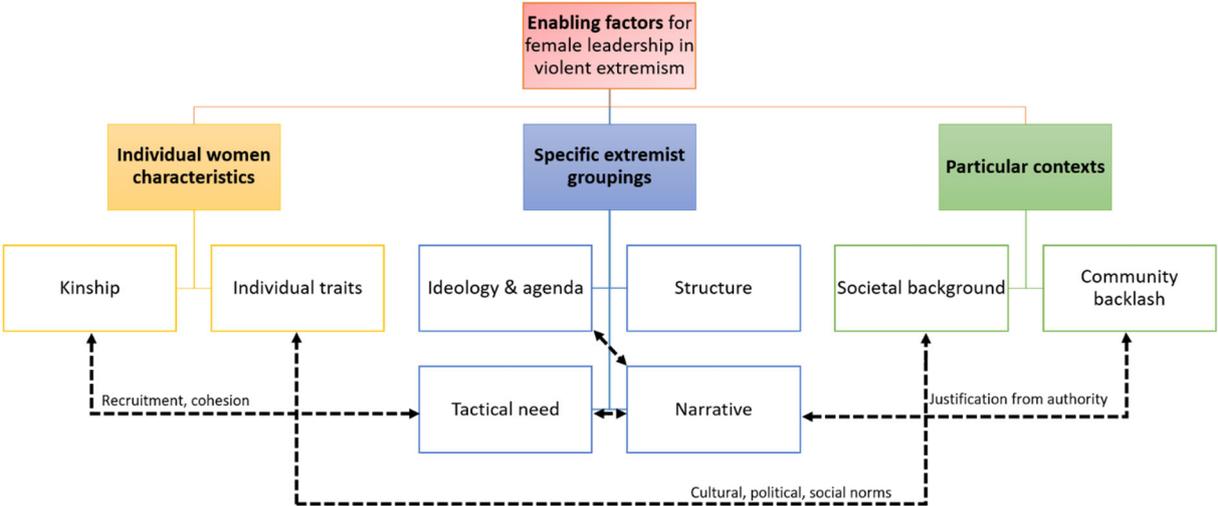
In a similar vein, IE₁ suggests that even if the conditions are similar for both male and female leaders, the woman “*will face more obstacles to achieve the position (...); leadership is about power relations and privilege, and very often women do not see themselves as recognised leaders.*” Nonetheless, IE₁₅ argues that such influence (linked to power relations) may not be straightforward or always the case. Giving the example of foreign female fighters who joined ISIL, IE₁₅ noted that their decision to join the field missions was not per se driven by the existence of women assuming leadership roles in the society as a whole. Other factors related to the foreign fighters’ individual state or environment could have motivated their actions.

Community backlash. As advanced by IE₁₂, *female leaders in secular or leftist groups are more supported by their community members than women in Islamist or right-wing groups.* In nationalist groups, female extremist leaders (or members) can be perceived as role models and even encouraged by their own families to advance their cause (IE₁₂). IE₁₄ notes that community support might differ during and after violent missions. During a conflict, certain euphoria reigns that may allow women to participate. But such strong support might attenuate or even end abruptly once the fight is over.

In summary, these enabling (or sometimes hindering) factors interrelate and can be mutually inclusive. A particular group’s rhetoric depends largely on the overarching ideology and/or agenda of the specific group and vice versa (where new agendas evolve from a particular group’s narrative). Figure 2 illustrates these enabling factors at the *micro*, *meso* and *macro* levels for better visualisation. Direction of several possible interactions is indicated by arrows.

Most factors speak to the (re)emergence of female leaders but also to the general female membership and/or participation in extremist groupings.

Figure 2: Enabling factors for the (re)emergence of female violent extremist leaders



Source: Author, 2020

3.2 Types of leadership for women in violent extremism

Female leadership happens not only in high ranks but also in under-estimated background positions (e.g. in recruitment or spy missions). As noted by IE₁₂ “*regardless of how limited leadership is, it is still leadership*”. Similar to men, female leaders need to be deeply committed, able to inspire groups, skilled and ambitious (IE₆). Through interviews with ISIL female defectors, IE₁₂ discovered that female leaders experienced a heightened sense of pride, usefulness and self-esteem compared to ordinary female ISIL members. Figure 3 illustrates 6 women-leadership types from the most cited to the least mentioned by our respondents. It is to be noted that the different types of leadership can be mutual and/or conceptually inclusive. While charisma or the ability to have a “compelling charm” or make a “unique and valued

contribution” (IE7) is key, it does not constitute a leadership type per se, but rather an overarching feature that is essential across identified leadership types (IE5).

Figure 3: Possible leadership types for female violent extremists



*In brackets is the proportion of respondents who noted/discussed particular leadership types

Source: Author, 2020

Operational leadership. Operational leadership is defined as being in charge of small-scale operations and carrying out specific activities. 40% of the respondents identified operational leadership as the most common for women in extremist organisations (IE2, IE3, IE4, IE7, IE8, IE9, IE12). For example, 3 female jihadists assaulted a police station in Mombasa, Kenya, in 2016 (IE7). Depending on particular group’s ideology, such units can consist of only women members, such as in organisations like the LTTE, or a mix of both sexes, such as in organisations like the FARC (IE10).

Kinship leadership. Kinship leadership refers to women whose authority depends on the status of a male relative. For instance, the wife of a leader will have more authority, notably among other female members of the extremist organisation (IE9). IE6 explains that in jihadi groups, some widows and mothers of martyrs can also become very influential depending to how the male relative died. For example, Malika El Aroud, whose husband killed Ahmed Shah Massoud, became an authoritative figure for both men and women (IE6). Another example is Umm Adam, whose husband was a very active mujahid. She was made director of a maqqar (IE6)⁴. Arranged marriages are also used to form alliances and strengthen bonds between clans, highlighting the woman's role in keeping different cells together (IE8).

Ideological leadership. Ideological leadership refers to the power women can exercise inside their households on their families and networks. Within the confines of traditional gender norms; mothers, wives and sisters can lead, motivate, influence and educate young militants (IE14). In other cases like in the US, some American women act as gatekeepers in right extremist movements (IE10) and as such, lead the movement's intelligence and security missions.

Political vanguard. Female leaders described as political vanguards oversee activities and propagate the beliefs of the group. At the strategic ideological level, IE2, IE5, IE8 and IE15 acknowledge political vanguard as a leadership type. For instance, the *Al-Khansaa female brigade* in the so-called Islamic State had ideological underpinnings – where its female-only policing unit punished other women who were suspected of violating the *Sharia* (IE4). Such governance structures where women lead and police other women (e.g., to obey *sharia law*) are requisite, also in building Islamic states as noted by IE5.

⁴ Maqqar: house, in the so-called Islamic State, for women waiting to be assigned a husband (Thomson, Les Revenants, 2016).

Leadership by example. Leadership by example entail the use of role models and women figures for emulation following their significant extremist actions. For example, Wafa Idriss inspired many women to join extremist missions (IE₁₁). For the women to benefit substantially from their actions however, endorsement by specific extremist groups is crucial (IE₂). As explained by IE₉, leadership by example can be instigated by symbolic leadership.

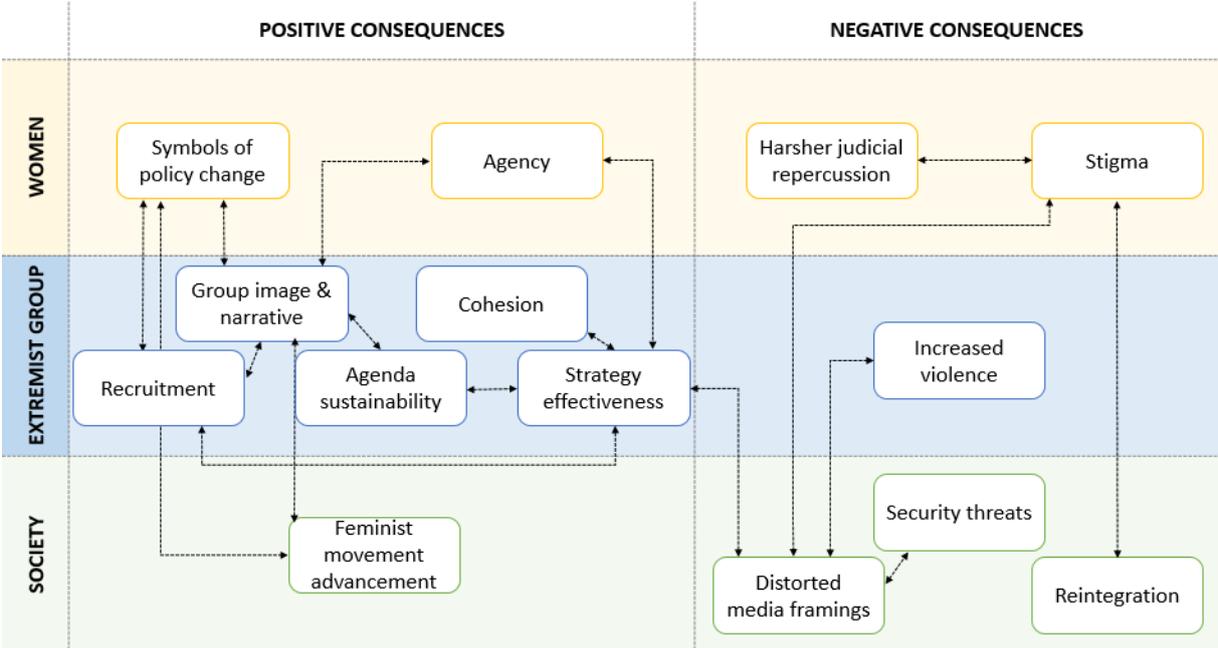
Symbolic leadership. Symbolic leadership occurs when certain ideals of women are presented in or as part of exemplary stories and used to advance a particular extremist group's propaganda (IE₉). Examples of such stories include the female *Companions of the Prophet* in Islam. These women are used as allegories to inspire other women to join jihadist movements (IE₉).

As noted by IE₁₃, none of the 6 leadership types can be considered as the most dangerous or likely. The emergence of each largely depends on the enabling factors discussed in section 3.1. In the following section, we explore some plausible implications of female extremist leadership.

3.3 Consequences linked to female extremist leadership

Figure 4 summarises multifaceted implications of female leadership on the (i) women leaders themselves, (ii) particular member extremist group and on the (iii) society as a whole. We uncover both positive and negative consequences although it is sometimes hard to draw clear bounds across identified impacts that may interact (direction of a few possible interactions is indicated by arrows).

Figure 4: Consequences linked to female extremist leaders across multi levels and dimensions



Source: Author, 2020

3.3.1 Consequences on the women leaders themselves

Agency. Over time, female leaders develop a sense of agency, but the extent of such power is often confined within a particular group’s ideology (IE₉). Depending on the context, they cannot exert influence beyond the ideological realms of the extremist group (IE₇). In other cases, the extent of influence depends on how a female leader came into power (IE₄). In some cases, kinship-based leadership commands less agency compared to other kinds of leadership domains (e.g. operational leaders elected based on merit).

Symbols of policy change. The mere existence of female leaders does not necessarily result into a fairer treatment of women nor the advancement of gender-sensitive policy actions especially by conservative extremist groups (IE₁₄). Nonetheless, female extremist icons and role models enhance gender representation - breaking several traditionalist glass ceilings,

inspiring other women and sometimes influencing gender-sensitive ideological changes (IE₁₄, IE₁₂).

Stigma. After a conflict, female extremist leaders can “*endur[e] abuse and hostility*” more than their male counterparts (IE₃). Such stigmatisation can negatively affect their re-integration opportunities or question their valuable extremist contribution that can easily be forgotten (IE₉). While their motivation and leadership behaviours are not significantly different from those of men, women leaders plausibly face several biases and prejudices, since their actions are perceived as abnormal and contrary to normative societal expectations especially in right-wing groupings (IE₁₁).

Leila Khaled, for instance, became infamous after two plane hijackings with the *Popular Front for the Liberation of Palestine*. This shaped her entire life and role within the extremist organisation (IE₁₀). On the other hand and as noted by IE₁₁, female leaders “*have less time and energy for personal life, relationships [and/] or children*”. Such socio-constraints potentially add to their stigmatisation.

Harsh judicial sanctions. Extent of judicial repercussions for female leaders is still unclear. Some face harsher sanctions compared to male leaders. To exemplify, IE₁₀ refers to two female leaders of the *Weather Underground*, an American extremist left-wing group active during the 1970s, who were imprisoned on the charges of aggravated battery and felony murder respectively, while their male peers were not jailed. In other cases where the prosecution is based on the acts performed, equal sentencing applies for both sexes (IE₆)

3.3.2 Consequences on the member-extremist group

Recruitment. The emergence of female leaders can enable extremist groups to appeal better to wider audiences and boost their recruitment for new members (IE₂; IE₁ and IE₇). By being role models, they can inspire and motivate new members to join. Women leaders can advance extremist groups' credibility and legitimacy (IE₁₁; IE₁₄).

Group image and narrative. When female leaders emerge, they break ideological ceilings and force particular extremist groups to reassess their female participation protocols and sometimes result in renewed narratives (IE₄, IE₁₄). Engaging more women allows some extremist groups to stand out against their competitors who might appear closed-minded, exclusive and gender insensitive (IE₇; IE₁₄). Nonetheless, such paradigm shifts need to occur in the first place to and facilitate the emergence of female extremist leadership (IE₉, IE₁₀).

Strategy effectiveness. Concerning short-term group aims (e.g., change of policy), female leaders are useful in terms of their operational advantages to help support the credibility or survival of particular groups. For longer-term missions (e.g., state-building), female leaders are best for other roles that help legitimise and popularise the extremist group's overarching ambition (IE₄). Nevertheless, their successful leadership execution depends largely on their personality features. The mere fact that the leader is a woman does not entail that she is a good leader (IE₇).

Increased violence. The degree of violence exerted by a female leader compared to a male leader is acknowledged to be similar, according to all experts. However, in some cases, as women have to break stereotypes about extremism as well as their leadership, they may need to additionally prove their worth for particular headship positions and assert their credibility

more strongly than a male peer (IE₁₂). For IE₄, this phenomenon is typical for new leaders, regardless of their sex, since every new leader needs to display her/his authority to respective members.

Cohesion. Female leaders increase trust and develop networks for member extremist groups – notably, based on their kinship ties (IE₁, IE₄). Influence of such networks depends on specific groups' structure (e.g. women-only hierarchical governance or other systems). However, their impact on a particular group's cohesion is unclear. As noted by IE₃, increased women participation can result in more cooperation and increased multi-dimensional stability. In other cases, the strength of social bonds among extremist group members depends largely on the trust and identification with specific leaders (IE₄).

Agenda sustainability. As women tend to live longer than men, they ensure extremist groups' longevity in terms of financial resources, propaganda, historical conscience and operational survival (IE₁₃). However, for some ideologies, such as in jihadist groups, IE₄ presupposes that having a public female leader would be a strategic mistake as it would undercut the ideological basis of the movement; such female leadership would be a sign of the jihadi group's bad health (IE₆).

3.3.3 Consequences on society as a whole

Feminist movement advancement. Women in leadership and extremism challenge stereotypes. For some, they can represent a sense of empowerment and even liberation that can add into new or renewed feminist discourse (IE₂). IE₉ points however that a violent extremist group can support the progress of women, but within its own group and for specific selfish reasons that hardly advance a feminist agenda.

Security threats. While security protocols are improving in this regard, counter-extremism have been largely male-oriented and thus, ill-prepared for the (re)emergence of female extremist leaders or perpetrators. In France for example, the majority of the population, as well as the counter-terrorism unit, were not aware of potential female-instigated terror attacks until after the failed 2016 attack by a female-led unit bearing allegiance to ISIS in Paris (IE6).

Distorted media framings. Sensationalist framings associated with women in non-conventional gender roles make long-standing news especially in Western press (IE2, IE8, IE10, IE14). Biased media framings, incorrect assumption that women lack agency and the misunderstandings across cultures pose serious security concerns (IE12; IE10; IE1). Resulting security lax can lead to increased women's effectiveness in terms of their strategic operational advantage for extremist groups. Yet, IE2 questions the extent of this threat by arguing that a leader is not always publicly visible. As advanced by IE8, "*if female leaders increased drastically groups' effectiveness, they would be more numerous, but it is hardly ever the case*". As such, a distinction must be made between the impacts of women's participation in extremism and the specific impacts of female leadership.

Reintegration. The distinction between during and after the conflict may be useful to highlight the paradox of some extremist groups and the society (IE14). In times of need and conflict, the emergence of women in headship positions can be accepted or even encouraged. However, when the conflict is over, these women may not be welcomed back into society because their "extremist headship" position may contradict conventional gender norms of their places of origin (IE14).

Depending on how women are perceived (e.g., brainwashed victims versus full agents), programs and sanctions may differ (IE₅). Using the case of foreign fighters, IE₅ and IE₆ mention ongoing debates around female extremist returnees that were considered differently from similar male returnees by policymakers in Western European countries. In contrast to male returnees from jihadist groups, women were hardly jailed. However, IE₅ and IE₆ noted a slow change in that regard, which should be encouraged.

Finally, whether a woman plans a terror attack or exerts influence, it is complicated to disentangle the extent of likely danger and/or risk. As such, each leadership type and/or their combination (section 3.2) would accrue unique impacts (IE₆).

4. Study limitations

Firstly, the broad exploratory nature of this paper presents a double-edged sword. On one hand, it engenders imprecision and questions external validity. On the other hand, it provokes key discourses on female extremist leadership by uncovering policy-relevant insights and trends. Such generalised outlook offered sufficient space for interviewees to maintain neutrality while discussing a highly politicised and contested field of research.

Another limitation stems from relying largely on expert interview data. Owing to the sensitivities surrounding the study topic, some experts might not provide full answers to avoid revealing compromising information. To avoid incomplete and biased data, we probed our experts for detailed answers whenever possible and, offered each an opportunity to seek further clarification(s) during the interviews. We provided the possibility for experts to express themselves through their preferred channel (email, phone) thus strengthening the quality and quantity of the responses.

Particular focus on western media and/or on English/French literature further challenges the validity of the results. Nonetheless, as most of the existing findings on the current topic are anchored on secondary data (Jacques & Taylor, 2009), our primary results provide additional useful insights e.g. on other factors that encourage female extremist leadership. To mitigate potential reporting and/or information bias due to for example media prejudice, we used a broad definition of violent extremism, avoided emotionally charged labels (e.g. terrorism) and interviewed varied experts in terms of profession, culture and geographical expertise. According to IE15, reporting bias plausibly exists as more men are normally arrested and charged in comparison to the suspected female extremists. Thus, even though fewer cases of female leaders are disclosed, it does not necessarily mean that there exists no female extremist leaders. Future studies should, however, reach out to more diverse experts (i) based on their gender, age (including youth) and places of origin (and not solely their geographical expertise), (ii) from different extremists groupings (left/right-wing, religious extremists, etc) and (iii) with varied membership (active, de-radicalised members).

Extremist groupings will forever evolve - as will the society - with the advent of new, transformed and complex extremist membership and formations (e.g. cyber-extremism). As such, the paper's findings do not provide an end to the problem but an entry point in efforts to better understand, surveil and address dynamic violent extremism by non-state actors (e.g. by use of big data to track emerging trends). Future research could also examine the role of female extremist leaders post-violence (e.g. in peacebuilding, de-radicalisation or re-integration policy actions).

5. Study conclusions and recommendations

In a field as vital as peace and security, stereotypes and assumptions need challenging to deepen our understanding of extremist groups and their membership. Female leadership may simply be overlooked owing to limited and biased understandings but with fatal societal insecurity implications.

Drawing from detailed knowledge of related experts, this paper provides the first preliminary explorative insights on the role and implications of female leaders(hip) in extremism globally. We develop three original frameworks with potential to evoke further discussions and support subsequent exploration of the largely masked women's sphere of influence in violent extremism. We identify 8 enabling factors for the (r)emergence of female leadership, 6 different leadership styles that women can adopt and, 14 likely consequences (on women themselves, the particular extremist group and on the society as a whole).

While further research is needed on the largely neglected topic, this paper provides key insights useful in counter-extremism, counter-radicalisation and reintegration interventions by interested governments worldwide.

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Declaration of interest statement

No potential conflict of interest was reported by the authors.

References

- AAUW. (2016). *Barriers and bias: The status of women in leadership*. Washington, DC.
- Alexander, A. (2016). *Cruel intentions: Female jihadists in America*. Washington, DC: Program on Extremism, The George Washington University.
- Almaki, S. H., Silong, A. D., Idris, K., & What, N. W. A. (2016). Understanding of the Meaning of Leadership from the Perspective of Muslim Women Academic Leaders. *Journal of Educational and Social Research*, 6(2), 225–236.
<https://doi.org/10.5901/jesr.2016.v6n2p225>
- Bloom, M. (2016). The changing nature of women in extremism and political violence. *Freedom for Fear*, 2016/11. <https://doi.org/10.18356/083ecdad-en>
- Bloom, M., Gill, P., & Horgan, J. (2012). Tiocfaidh ár Mná: Women in the Provisional Irish Republican Army. *Behavioral Sciences of Terrorism and Political Agression*, 4(1), 60–76. <https://doi.org/10.1080/19434472.2011.631345>
- Brown, K. E. (2018). *White widows: The myth of the deadliest Jihadi women*. Intitute for Global Change. <https://institute.global/insight/co-existence/white-widows-myth-deadliest-jihadi-women>
- Brussels International Center. (2017). *Women's roles in terrorism and violent extremism*. Brussels, Belgium. <http://www.bic-rhr.com/chapter-1-a-brief-historical-overview/>
- Bryson, R. (2018). *Debunking Myths on Gender and Extremism*. Intitute for Global Change. <https://institute.global/policy/debunking-myths-gender-and-extremism>
- Conway, M., & Mcinerney, L. (2012). What 's love got to do with it? Framing ' Jihad Jane ' in the US press. *Media, War & Conflict*, 5(1), 6–21.
<https://doi.org/10.1177/1750635211434373>
- Cragin, R. K., & Daly, A. S. (2009). *Women as Terrorists: Mothers, recruiters and martyrs*. Santa Barbara, CA: Praeger Security International.
- Cruise, R. S. (2016). Enough with the stereotypes: Representations of women in terrorist organizations. *Social Science Quarterly*, 97(1), 33–43.

<https://doi.org/10.1111/ssqu.12250>

Cunningham, K. J. (2003). Cross-regional trends in female terrorism. *Studies in Conflict & Terrorism*, 26(3), 171–195. <https://doi.org/10.1080/10576100390211419>

Cunningham, K. J. (2007). Countering female terrorism. *Studies in Conflict & Terrorism*, 30(2), 113–129. <https://doi.org/10.1080/10576100601101067>

Dalton, A., & Asal, V. (2011). Is it ideology or desperation: Why do organizations deploy women in violent terrorist attacks? *Studies in Conflict & Terrorism*, 34(10), 802–819. <https://doi.org/10.1080/1057610X.2011.604833>

Davis, J. (2006). *Women and radical Islamic terrorism : planners , perpetrators , patrons ?* Toronto, Canada: The Canadian Institute of Strategic Studies.

de Leede, S. (2014). *Afghan women and the Taliban : An exploratory assessment*. The Hague, the Netherlands: International Centre for Counter-Terrorism. <https://www.icct.nl/download/file/ICCT-Leede-Afghan-Women-and-the-Taliban-April-2014.pdf>

Eagly, A. H. (2007). Female leadership advantage and disadvantage: Resolving the contradictions. *Psychology of Women Quarterly*, 31, 1–12. <https://doi.org/10.1111/j.1471-6402.2007.00326.x>

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, 109(3), 573–598. <https://doi.org/10.1037/0033-295X.109.3.573>

Economics & Peace Institute. (2016). *Global Terrorism Index 2016: Measuring and understanding the impact of terrorism*. <http://economicsandpeace.org/wp-content/uploads/2016/11/Global-Terrorism-Index-2016.2.pdf>

Eklund, K., Barry, E. S., & Grunberg, N. E. (2017). Gender and leadership. In *Gender Differences in Different Contexts* (pp. 129–150). Intechopen.

Fink, N. C., Barakat, R., & Shetret, L. (2013). *The roles of women in terrorism , conflict , and violent extremism: Lessons for the United Nations and international actors*. Center on Global Counterterrorism Cooperation. http://www.globalcenter.org/wp-content/uploads/2013/04/NCF_RB_LS_policybrief_1320.pdf

- Gentry, C. E., & Sjoberg, L. (2015). *Beyond mothers, monsters and whores: Thinking about women's violence in global politics*. London, UK: Zed Books.
- Gonzalez-Perez, M. (2008). *Women and terrorism: Female activity in domestic and international terror groups*. New York, NY: Routledge.
<https://doi.org/10.4324/9780203926550>
- Gonzalez, A. L., Freilich, J. D., & Chermak, S. M. (2014). How women engage homegrown terrorism. *Feminist Criminology*, 9(4), 344–366.
<https://doi.org/10.1177/1557085114529809>
- Hamilton, H. L. (2007). Terrorist organizational models. In *A military guide to terrorism in the twenty-first century* (pp. 1–14). Fort Leavenworth, Kansas: US Army Training and Doctrine Command.
- Heilman, M. E. (1995). Sex stereotypes and their effects in the workplace: What we know and what we do't know. *Journal of Social Behavior & Personality*, 10(6), 3–26.
- Henshaw, A. L. (2015). Where women rebel. *International Feminist Journal of Politics*, 1–22.
<https://doi.org/10.1080/14616742.2015.1007729>
- Hofmann, D. C. (2015). *Warriors and prophets : The role of charismatic authority in the radicalization towards violence and strategic operation of terrorist groups*. Ontario, Canada: University of Waterloo.
- Hoyt, C. L., & Murphy, S. E. (2016). Managing to clear the air: Stereotype threat, women, and leadership. *The Leadership Quarterly*, 27(3), 387–399.
<https://doi.org/10.1016/j.leaqua.2015.11.002>
- Huckerby, J. (2015). When women become terrorists. *The New York Times*.
<https://www.nytimes.com/2015/01/22/opinion/when-women-become-terrorists.html>
- Jacques, K., & Taylor, P. J. (2008). Male and female suicide bombers: Different sexes, different reasons? *Studies in Conflict & Terrorism*, 31(4), 304–326.
<https://doi.org/10.1080/10576100801925695>
- Jacques, K., & Taylor, P. J. (2009). Female terrorism: A review. *Terrorism and Political Violence*, 21(3), 499–515. <https://doi.org/10.1080/09546550902984042>

- Jacques, K., & Taylor, P. J. (2012). Myths and realities of female-perpetrated terrorism. *Law and Human Behavior*, 37(1), 35–44. <https://doi.org/10.1037/h0093992>
- Jakana, L. T., & Kanisha, D. B. (2015). Women's Participation in Violent Political Organizations. *Women's Participation in Violent Political Organizations*, 109(3), 488–506. <https://doi.org/10.1017/S0003055415000313>
- Kauppinen, K., & Aaltio, L. (2003). Leadership, Power, and Gender. In *Ember C.R., Ember M. (eds) Encyclopedia of Sex and Gender*. Springer, Boston, MA.
- Khelghat-Doost, H. (2017). Women of the Caliphate: The mechanism for women's incorporation into the Islamic State (IS). *Perspectives on Terrorism*, 6(1), 17–25. <http://www.jamesforest.com/wp-content/uploads/2017/04/11-1.pdf>
- Laster, K., & Erez, E. (2015). Sisters in terrorism? Exploding stereotypes. *Women and Criminal Justice*, (25), 83–99. <https://doi.org/10.1080/08974454.2015.1023884>
- Leyens, J.-P., & Scaillet, N. (2012). Les stéréotypes. In *Sommes-nous tous des psychologues?* (pp. 105–124). Wavre, Belgium: Éditions Mardaga.
- Margolin, D. (2018). *Neither feminists nor victims: How women's agency has shaped Palestinian violence*. Institute for Global Change. <https://institute.global/insight/co-existence/womens-agency-palestinian-violence>
- Matusitz, J. (2013). What is terrorism? In *Terrorism and communication: A critical Introduction* (pp. 1–32). Thousand Oaks, CA: SAGE.
- Nacos, B. L. (2005). The Portrayal of female terrorists in the media: Similar framing patterns in the news coverage of women in politics and in terrorism. *Studies in Conflict & Terrorism*, 5(28), 435–451. <https://doi.org/10.1080/10576100500180352>
- Ness, C. D. (2005). In the name of the cause: Women's work in secular and religious terrorism. *Studies in Conflict & Terrorism*, (28), 353–373. <https://doi.org/10.1080/10576100500180337>
- O'Neil, H. P. (2010). Political violence. In *Essential of comparative politics* (3rd ed., pp. 261–290). New York, N.Y.: W.W. Norton & Company, Inc.

- Orav, A., Shreeves, R., Radjenovic, A., & Lopez, S. (2016). *Radicalisation and counter-radicalisation : A gender perspective*. Brussels, Belgium: European Parlement.
http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI%282016%29581955
- Ortbals, C. D., & Poloni-Staudinger, L. (2016). Women defining terrorism : Ethnonationalist , state, and machista terrorism. *Critical Studies on Terrorism*, 7 (3), 336-356.
<https://doi.org/10.1080/17539153.2014.956014>
- Parashar, S. (2011). Women as perpetrators, planners, and patrons of militancy in Kashmir. *Studies in Conflict & Terrorism*, 34(4), 295–317.
<https://doi.org/10.1080/1057610X.2011.551719>
- Ponzanesi, S. (2014). Female suicide bombers and the politics of gendered militancy. In *Gender, globalization, and violence: Postcolonial conflict zones* (pp. 82–108). New York, NY: Routledge.
- Rachel, B., & Audu, B. B. (2018). *Boko Haram's Split on Women in Combat*. Institute for Global Change. <https://institute.global/insight/co-existence/boko-harams-split-women-combat>
- Raghavan, S. V., & Balasubramaniyan, V. (2014). Evolving role of women in terror groups : Progression or regression ?. *Journal of International Women's Studies*, 15(2), 197–211.
<http://vc.bridgew.edu/jiws/vol15/iss2/13/>
- Reed, M. W., & Jakana, L. T. (2017). Women on the frontline: Rebel group ideology and women's participation in violent rebellion. *Journal of Peace Research*, 54(1), 31–46.
<https://doi.org/10.1177/0022343316675025>
- Reiter, D. (2014). The positivist study of gender and international relations. *Journal of Conflict Resolution*, 7(59), 1301–1326. <https://doi.org/10.1177/0022002714560351>
- Sageman, M. (2004). *Understanding terror networks*. Philadelphia, Pennsylvania: University of Pennsylvania Press.
- Salem, E. (2015). Attitudes towards female suicide bombers in Palestine and Tamil Sri Lanka. *Behavioral Sciences of Terrorism and Political Agression*.

<https://doi.org/10.1080/19434472.2015.1009482>

Sharon, D. K., & Spickard Prettyman, S. (2008). Women, leadership, and power revisiting the Wicked Witch of the West. *Gender and Education*, 20(5), 451–464.

<https://doi.org/https://www.tandfonline.com/action/showCitFormats?doi=10.1080/09540250701805797>

Spencer, A. N. (2016). The hidden face of terrorism : An analysis of the women in Islamic State. *Journal of Strategic Security*, 9(3), 74–98. [https://doi.org/10.5038/1944-](https://doi.org/10.5038/1944-0472.9.3.1549)

[0472.9.3.1549](https://doi.org/10.5038/1944-0472.9.3.1549)

Sutten, M. L. (2009). *The rising importance of women in terrorism and the need to reform counterterrorism strategy*. United States Command and General Staff College.

<http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA506225>

Thomson, D. (2016). *Les revenants*. Paris, France: Seuil.

Vogel, L., Porter, L., & Keibell, M. (2014). The roles of women in contemporary political and revolutionary conflict: A thematic model. *Studies in Conflict & Terrorism*, 1(37), 91–114. <https://doi.org/10.1080/1057610X.2014.853606>

Von Knop, K. (2007). The female Jihad: Al Qaeda's women. *Studies in Conflict & Terrorism*, 5(30), 397–414. <https://doi.org/10.1080/10576100701258585>

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