



WOMEN IN VIOLENT EXTREMISM IN SWEDEN

 Nordic Council
of Ministers

Women in violent extremism in Sweden

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Summary

Women have generally been treated as “side shows” in the literature on war, terrorism and violent extremism and have thus been given scant scholarly attention. In mainstream media discourse, when the role of women is in fact raised, they tend to be framed as unwitting, passive agents or brainwashed victims pulled into violent extremist movements only through the relations of their husbands, boyfriends, or fathers. The lack of attention to female actors in violent extremism limits our ability to understand these movements and deforms theoretical understandings of the processes whereby individuals become radicalized. Ultimately this undermines efforts to design effective strategies to counter and prevent violent extremism.

This report presents a quantitative assessment of women in violent extremism in contemporary Sweden. Specifically, we study women in violent Islamic extremism, violent far-right extremism, and violent far-left extremism. The analyses are based on data compiled from Swedish governmental registers on crime, mental health, education, child welfare intervention, labor market attachment, and information from the Swedish Police and Swedish Security Service about known affiliation to violent extremist milieus. The longitudinal data covers the period 2007–2016 and affiliation data from the Swedish Police and Swedish Security Service is a cross-section from 2017. We use descriptive statistics and network analysis to compare women in violent extremism to three reference groups: biological sisters, men that belong to the three violent extremist milieus, and women that belong to other antagonistic milieus.

The typical woman in violent extremism is around 28 years old. Both the youngest, 15 years old, and the oldest, 63 years old, women are affiliated with violent Islamic extremism. More than 97 percent of women in violent far-right extremism are Swedish-born. Women in violent far-left extremism are also predominantly born in Sweden (89 percent), and there are no great differences between women and men in far-left extremism in this regard. Both far-right and far-left extremists are dominated by individuals born in Sweden with two Swedish-born parents. More than 55 percent of women in violent Islamic extremism are foreign-born, compared to almost 75 percent of the men in violent Islamic extremism.

Across the three milieus, violent far-left extremist women perform best at school with consistently higher grades. The average score of women in violent far-left extremism is identical to that of their sisters, and women in violent far-left extremism perform on average substantially better than violent far-left men. Violent Islamic extremist women in contrast perform on average similarly to violent far-left men, and they perform better than their biological sisters. This is not the case for violent far-right women, whose sisters outperform them. Women in violent far-right extremism have the lowest levels of education, with 44 percent of the women having only primary education. Comparing violent far-right women to their non-extremist biological sisters reveals that the former have significantly lower educational attainment than their sisters.

None of the violent far-left extremist women have been subject to a child welfare intervention, while between 7 and 8 percent of the women in the other two

extremist milieus have experienced an intervention. Women in violent Islamic extremism have the weakest labor market attachment and the highest dependency on financial assistance. Women in violent Islamic extremism have a low employment rate but also a relatively high share of individuals with a high number of unemployment days and a high share have received financial assistance during the last 5 years. We find the highest employment rate among women in violent far-left extremism, where 89 percent are gainfully employed in 2016. Men in violent far-left extremism have an employment rate around 10 percent below that of the women in 2016 (although similar levels for employment the last five years) and similar to that of men in violent far-right extremism. About 11 percent of the women in violent far-left extremism have received financial assistance in the last five years.

Very few women in violent Islamic extremism have been in contact with the health system because of mental disorders. Women in violent far-left extremism have the highest prevalence of in-patient major mental disorders among the extremist milieus (3 percent), higher than men in the same milieu (less than 1 percent). Women in violent Islamic extremism do not have any registered major mental disorders.

Over the period we studied, 68 percent of the violent extremists were suspected of at least one crime. The coverage is substantially higher for men, 72 percent than for women, 43 percent. However, there is a marked difference between women in the three milieus. Only 37 percent of women in violent Islamic extremism were suspected of at least one crime, compared to 44 percent of the women in violent far-right extremism, and 60 percent of women in violent far-left extremism. Compared to their sisters, women in all three groups were criminally active to a much higher extent. Between 10 and 17 percent of the sisters were suspected of committing at least one crime. However, women in all three milieus are less criminally active than women in other antagonistic milieus, among whom 66 percent has been suspected at least once. In all three milieus, the share of men with a criminal record is about twice as large as that of women. The difference between men and women is particularly pronounced among violent far-left extremists.

Compared to women in other antagonistic milieus, the shares of women who have committed five or more crimes are lower in all three extremist milieus, and much lower among women in violent Islamic and violent far-right extremism. The share of women in violent far-left extremism suspected of at least five crimes is almost 26 percent, compared to 17 percent among women in violent far-right extremism, and a little below 6 percent among women in violent Islamic extremism. When women in violent extremism are suspected, a sizable fraction of the crimes are related to violence, most saliently in the case of women violent far-left extremism. The number of violent crimes per individual is overall higher in all extremist milieus than in other antagonistic milieus and for the sisters.

Crime patterns differ across milieus as well. Women in violent far-left extremism have a higher prevalence of violent crime. The share of drug-related crimes is generally higher among men in violent extremism than among women. Drug-related crime is also the most frequent crime category among sisters to women in violent far-left extremism. Other antagonistic milieus have a higher fraction of individuals that have been suspected of one or more crimes, but the extremist milieus have higher shares of violence-related crimes per individual, with women having lower numbers than men in general. Beyond violence, women in the three groups are also suspected of threats and theft, and fraud also features as an offense category, especially for women in violent Islamic and violent far-right extremism. Suspicions

for weapon- and drug-related crimes are present for women in violent far-right and violent far-left extremism. Compared to men in the same milieus, women in general are suspected of crimes to a lesser extent.

In the co-offending networks centered on extremist women, we see that violent Islamic extremism has the highest proportion of individuals that have no crime-related connections at all, followed by women in violent far-right extremism. Women in far-left extremism have the most crime-related connections among women in extremist milieus, and women in violent far-left extremism are also the most centrally positioned compared to women in other milieus. Women in violent Islamic extremism tend to have few criminal connections.

As a conclusion, women in violent far-left extremism have significantly more stable and socially robust conditions than women in violent Islamic extremism. In that regard, women in violent far-right extremism are closer to women in violent far-left extremism than to women in violent Islamic extremism. The comparison between women in violent extremism and their biological sisters reveals a link between crime, social problems, and extremism. Thus, when controlling for family background, women in violent extremism seem to have more extensive problems than their biological sisters without such known affiliations.

While scholars have paid attention to women in crime and violence for a long time, and increasingly to gender and gender relations within criminal and antagonistic groups, we hope that more researchers will turn their attention to these issues in the future.

1. Background and aim

In February 2015, three teenagers known as the Bethnal Green trio left London to join the so-called Islamic State (IS) in Syria. The event triggered extensive media coverage, the fact that they were teenage girls undoubtedly contributed to the worldwide coverage. While the case of the Bethnal Green trio highlighted the role of women in violent Islamic extremism, which at least to Western observers came across as somewhat paradoxical, irrespective of political or ideological spectrum women are no strangers to participation in contemporary terrorism and violent extremism (Cragin & Daly, 2009). One iconic example is Ulrike Meinhof's role as one of the leaders in the Baader–Meinhof terrorist group that wrought havoc in West Germany in the 1970s. Another well-known example that highlights active participation of women in terrorism are the female suicide bombers in Chechnya, the so-called Black Widows, and their role in a series of terrorist attacks, including the attack on the Dubrovka Theater in Moscow in 2002 (Nivat, 2005). There are in fact multiple studies and examples of women in violent extremism participating in a range of activities, including logistics, recruitment, political safeguarding, operations, suicide bombing and combat (Saltman & Smith, 2015). The nature and pertinence of gender differences is also a topic of ongoing debate in research on radicalization and on the operations of violent extremist groups (Berko & Erez, 2007; Bloom, 2011; Loken & Zelenz, 2018). However, this literature warrants two critical remarks. Firstly, the majority of studies on terrorism and violent extremism tend not to be based on primary data (Schuurman, 2018). Secondly, even though there are studies on women in violent extremism, the topic remains understudied. In this report we are aiming to address both issues.

Based on register data from the law enforcement agencies and other governmental agencies, this report contributes with a quantitative assessment of women in violent extremism in Sweden today. Specifically, we study women who have been identified as belonging to three violent extremist milieus in Sweden: violent Islamic extremism, violent far-right extremism, and violent far-left extremism. To the best of our knowledge, there is no micro-data available that allows for comparative analysis of violent extremism across the Nordic countries. However, Sweden provides an exceptional opportunity to quantitatively study violent extremism due to the existence of a unique database composed of a set of governmental registers on violent extremism and its demographic and criminal dimensions (see section on Data and methods). In addition, the case can be made that Sweden is the Nordic country that faces the greatest challenges with respect to violent extremism. For example, Sweden is among the European countries with the highest per capita number of foreign fighters joining terror organizations such as Al-Qaeda and IS, second only to Belgium and Austria (Rostami et al., 2020; Gustafsson & Ranstorp, 2017; Boutin et al., 2016). Sweden has a long tradition of being a hub for the far-right movement in the Nordic countries (Ekuriren, 2019; Ravndal, 2018). The recent rise of right-wing extremists presents new challenges in terms of disinformation and violence and threats, not least for local agencies in Sweden (SOU, 2017). In addition, both far-right and Islamic extremists have carried out attacks and homicides on Swedish soil (NCT, 2018). For these reasons, we argue that the Swedish experience is to some extent a proxy for the Nordic countries.

There is no available data on violent extremism that allows for straight-forward cross-country comparison. However, the Global Terrorism Database tracks terror attacks, compiled from media sources, at the country level.¹ For the period 2009–2018, among the worst hit countries in Europe were Ukraine and Russia, with an average number of 3.9 and 0.7 events per million inhabitants per year during the last ten years, respectively. In Western Europe, Austria, Belgium and the Netherlands had 0.2 events per million inhabitants per year during the last ten years. France had 0.4 and Germany had 0.3 events per million inhabitants per year during the last ten years. This can be compared to 0.1 events per million inhabitants per year in the US as well as in Canada. The Nordic countries as a whole had 0.4 events per million inhabitants per year, and Sweden had 0.9 events per million inhabitants per year during the last ten years. Thus, although the number of events in the Nordic countries is low in absolute terms, per capita Sweden is much more exposed than the Nordic average and other Western European countries, indicating that in the Nordic region, Sweden has become a hotbed for violent extremism.

The report is organized as follows: Firstly, arguing that criminological research contains important knowledge on deviant and antagonistic behavior, we take note of some general insights on the role of women in crime. Secondly, we briefly review the relevant international empirical research on women in violent extremism. We then proceed to describe the data and methods before presenting the results and conclusions.

1.1. Women in crime and deviance

The Handbook of Crime Correlates (Ellis et al., 2019), lists 25 statements on crime that receive the strongest support in the scientific literature. The three statements that have the strongest support are: males commit more crime than females in all major categories of official data, males commit more homicides than females, and, according to official data, males commit more violent crime overall than females. While highlighting the well-known sex bias in crime, these statements also explain why criminological research on women (especially on women as perpetrators of crime) has been limited. It can also be argued that criminologists' attitude towards research on women has been largely influenced by gender relations in society at large. This is well illustrated by the way in which the father of modern criminology, Cesare Lombroso, addressed issues of women's crime in his central work *L'uomo Delinquente* (Criminal man) (1876). In this book, which is entirely focused on the criminal behavior of males, Lombroso argued that crime is essentially innate. When he later published *La Donna delinquente: la Prostituta e la Donna Normale* (Criminal woman: the prostitute and the normal woman) (Lombroso, 1876; Lombroso & Ferrero, 1894) it was heavily censored because of its in-depth descriptions of sexuality (Gibson & Hahn Rafter, 2004). In contrast to the book about the man, this book was not about crime and violence. The book instead focuses on different types of female sexuality such as homosexuality, promiscuity and prostitution, that were perceived as deviant. These behaviors were also attributed to inheritance. After what can only be described as ignorance dressed in scientific terms, there were no

1. Version 0919. Accessed 2020-04-23. Available online upon registration at: <https://www.start.umd.edu/gtd/>. The Global Terrorism Database is managed by the National Consortium for the Study of Terrorism and Responses to Terrorism at the University of Maryland. It includes information on terrorist attacks across the globe, compiled from news media reports.

major developments about women in the study of crime until the late 1900s. Women were simply absent. For example, one of the largest and most comprehensive investigations of juvenile delinquency in Sweden, the "1956 client survey on juvenile delinquents" (SOU, 1971) only studied boys. Perhaps the most glaring example of criminology's bias concerning women as perpetrators of crime is the origin of one of criminology's most influential theories: social bonding theory (Hirschi, 1969). The empirical background of the theory consists of a self-reported study that included only boys, despite the fact that the theory's starting point is the question of why people do *not* commit crimes.

Feminist criminologists have strongly criticized the absence of women in research on the causes of crime (e.g., Heidensohn, 1968; Smart, 1977; Tiby, 1987). At the same time, feminist theory in criminology has perhaps contributed more to the understanding of the causes of women's victimization than to the analysis of women's criminal activity. However, today we are gaining more and more knowledge about the criminal behavior of women (Selmini, 2020). One of the first studies with this focus is a study of girls in criminal gangs (Adler, 1975). The general finding of contemporary studies on female crime is that to a large extent the risk factors behind female and male crime are similar, but that women who are registered for crime usually come from even worse social conditions than registered men (Zahn, 2009). Women's criminal careers are typically shorter, and their criminality is less extensive and serious. However, the criminal careers of the few persistent female offenders found in criminological studies have quite the same pattern as the careers of their male counterparts (Sivertsson, 2016).

Among other things, research on gender and crime in Sweden shows that the gender gap, i.e., the difference in the extent of the criminal activity, between men and women remains considerable although it is shrinking significantly. For violent crimes, the difference began to diminish in the late 1930s, for theft in the late 1950s (Estrada et al., 2019). Interestingly, empirical research (Estrada et al., 2016) speaks against the popular hypothesis that the reason for the diminishing gender gap is that women's liberation leads to increased female crime. Instead, it seems to be the case that men's crime is decreasing while women's crime remains fairly constant. Recent research on how women's crime is reflected in media discourse (Estrada et al., 2019) provides two interesting insights: although the proportion of women among suspects and prosecuted for crime is increasing in society, the representation of women's crime in the media is constant. The difference in media reporting on women's crime compared to men's crime, is that in articles about women, the causes of their crime are discussed significantly more often than in articles concerning men. The latter can be interpreted in terms of the perception of the crime of men as something quite natural, thus not requiring any explanation. However, this is not the case for crimes committed by women. These crimes need to be explained somehow.

For the discussion in this report, a relevant aspect concerns how women choose their accomplices to criminal activities and what positions they usually occupy in different types of criminal networks. A study from the late 1990s (Sarnecki, 2001) shows that girls and young women usually have marginal positions in criminal networks, and that their choice of co-offenders is changing with increasing age. Girls in their early teens are usually registered for crimes committed together with female peers who live nearby or attend the same school. With increasing age, the proportion of female offenders decreases. Those who remain have a tendency to commit crimes more often together with men who are often slightly older.

1.2. Women in violent extremism

We use the concepts *violent extremism* and *terrorism* interchangeably. This partly reflects that the research literature is somewhat ambiguous and vague on both concepts, further illustrated in the review section below, but it also reflects the fact that the phenomena that these concepts try to capture are not unrelated. As we conceive it, the antagonistic movements that we study in this report use, or have the potential to use, violence as a means to contest mainstream society, and challenge the state monopoly on violence.

Women have generally been treated as "side shows" in the literature on war, terrorism and violent extremism and have thus been given scant scholarly attention. In mainstream media discourse, when the role of women is in fact raised, they tend to be framed as unwitting, passive agents or brainwashed victims pulled into violent extremist movements only through the relations of their husbands, boyfriends, or fathers. The literature, too, seems to be rooted in long-standing narratives around the absence of female agency in the political sphere and stemming from deeply held cultural norms that assert that women are more 'compassionate and loving' and less oriented towards politics and nation-building than men (Mattheis & Winter, 2019). The lack of serious attention to female actors in historical and contemporary forms of violent extremism is a problem for at least two reasons. First, it limits our ability to understand these movements as we have no way of knowing why more women would join if we do not study them. Second, the exclusive attention to men in these organizations has deformed theoretical understandings of the processes whereby individuals become radicalized, which ultimately undermines efforts to design effective strategies to counter and prevent violent extremism (Blee, 1996).

The main source of knowledge on female participants in violent extremism in Sweden comes from case descriptions provided by investigative journalism, as well as memoirs written predominantly by former extremists. Sarnecki (2018) examines a number of such publications about women who joined IS, and the common pattern is that these women have engaged in an extremist movement because they have had relationships with men active in the movement. As is the case also in traditional crime (see above), men are slightly older than women and have a dominant position in the relationship. While this is certainly one common path for women into extremism, it is hardly the only one. There are several examples of young women who have made the decision to join, e.g., traveling to Syria or Iraq to join IS, without the decision being influenced by a man with whom they have a romantic relationship. Sometimes close relatives and friends influenced the decision. Sometimes the influence came from the Internet. For some women, the decision seems to be an emancipatory act, aimed at freeing themselves from family control. There are also cases where young immigrant Muslim women solve the conflict of feeling marginalized in both their native culture and the host country's culture by taking the step to join an extremist religious environment. There are also descriptions of women who initially associate themselves with an extremist environment because of their relationship to a man, but then free themselves from that man yet continue with their ideological commitment (Sarnecki, 2018).

While most of the available descriptions are about the women in IS, investigative journalism has also provided accounts of women in violent far-right extremism (e.g., Expo, 2003, 2006; Holm, 2015; Sandelin, 2012; Lodenius, 2012). However, one must go back to the 1970s to find depictions of women in the extreme left. At that time, a

number of women held leading positions within movements such as the Red Army Fraction in West Germany, the Red Brigades in Italy and the Weather Underground in the U.S. While women in leading positions are still rare in extremist movements today, they are increasingly joining extremist movements and taking up public and more openly activist roles, particularly in younger neo-Nazi groups (Miller-Idriss & Pilkington, 2019; Blee & Yates, 2017) and the Alt-Right movement (Darby, 2020). Interestingly these developments are unfolding simultaneously with women increasingly being targeted by those same movements. Women are thus increasingly visible and active in far-right extremism while sexist, hateful rhetoric towards women – and in some cases violent, even deadly misogyny have an ever-stronger presence in extreme-right ideas and organizing (DiBranco, 2017; Blee & Yates, 2017; Fernquist et al., 2020).

1.2.1. Violent Islamic extremism

The lion's share of recent studies on violent Islamic extremism focuses on IS and Al-Qaeda. Many of these studies are literature reviews or single case studies, and a number of papers have been written to understand the roles that women have in violent Islamic extremism (Buriil, 2017; Eggert, 2018; Knop, 2007; Sjoberg & Gentry, 2016). The responsibilities of women in the construction of the self-proclaimed Caliphate of IS during the period in which the group occupied territory in Iraq and Syria (2014–2017) included being wives to soldiers, being mothers, raising the next generation of jihadi warriors, advancing IS's global reach through online recruiting and maintaining order within IS's network of women. The state that IS sought to build was highly gender-segregated, and women and men that were not married had little contact. This required a parallel society for the women in the Caliphate. Spencer (2016) uses social media accounts to categorize the women who were a part of the organization, and information such as ethnicity, age, background, education, the husband's rank, etc., were used to inform on the roles of the women of the organization. Spencer argues that these parameters affected not only the role that a woman got when arriving in the Caliphate, but also that the influence women had and the number of women on significant positions increased during the time the Caliphate existed (Spencer, 2016: 97). The stereo-typical preconception of a woman is that she is non-violent. Thus, it is beneficial to use women alongside men for violent purposes because women can make it through security checks more easily than men and go under the radar in a situation where a man would be suspected (Buriil, 2017). Women can also hide bombs and other harmful objects underneath loose clothes more easily than men. Even if there is no shortage of men, it can be argued that women are used to create a strategic element of surprise and therefore are used for carrying out attacks (Ispahani, 2016). Scholars also argue for the symbolic value of having mothers in an organization. The martyrdom carried out by mothers is often sensationalized by the media and used as a recruitment tool. It is also argued that involving women in an organization increases willingness of men to join, along with the importance for reproduction and raising a new generation to expand the organization in numbers (Dalton & Asal, 2011).

The role that social media play in recruitment into extremism is a much-discussed topic, and several studies show that women are radicalized online and recruited for IS because the internet is a "safe" space for many Muslim women. The exposure to an extremist idea of Islam may be greater for women because of the Internet providing an inclusive virtual social environment for religious exploration that

extremist organizations such as IS are taking advantage of due to gendered segregation (Shapiro & Maras, 2018). For women coming from a conservative and controlling context, the number of contacts they can have online may be higher than in the offline world (Pearson, 2018). Saltman and Smith (2015) identify three key factors that drew women in the West to the Caliphate through propaganda and social media campaigns. The first was the idealistic goal of it being a religious duty to build the Caliphate, the second was association and sisterhood inside the Caliphate, and the last factor was the romanticism of the adventure of traveling to the Caliphate (Saltman & Smith, 2015).

Perešin (2015) argues that one of the reasons why women traveled to IS-occupied territory was the persuasive depiction of the Caliphate in propaganda as a "Muslim Disneyland," appealing to those living in alienation or isolation in the Western world who saw their chance to fit in and find community. Women were recruited not only to be housewives but also to be a part of the state-building project as well as getting the responsibility to build a functioning state. In fact, many women who joined IS did not see it as joining a terrorist group. Instead, they considered joining the organization as an opportunity to get a fresh start in a new state built on Islamic values where they were promised significance, purpose and meaningful roles (Perešin, 2015). Importantly, the assumption that females joined IS primarily to become "jihadi brides" is reductionist and above all, incorrect. In interview studies, women have reported a multitude of different reasons for migrating to IS-occupied territory involving both push and pull factors. Among the primary driving factors for many women to travel were the search for meaning, sisterhood, and identity, including political identity offered by being part of the state-building project (Saltman & Smith, 2015; Hoyle et al., 2015). Finally, a number of studies have looked into the ways in which news media frame and portray women who are/have been part of violent Islamic organizations (see e.g., Naaman, 2007; Al-Tabaa, 2013; Sjoberg, 2018; Martini, 2018). Sjoberg (2018) explores the hyper-visibility of women in IS and how they were sensationalized and instrumentalized in a thought-through media strategy by the organization. The article found that the women that joined IS were portrayed as "non-agents" in news coverage, while the women that fought against them instead were overwhelmingly seen as agents (Sjoberg, 2018). Martini (2018) draws similar conclusions in a study showing that women joining IS territory were not described in the media as actors, but instead other models explained why women who joined IS were used, such as women being brainwashed or forced by a man to join violent Islamic extremism (Martini, 2018). However, online-radicalization needs to be discussed given that both the concept of radicalization and the significance of online-interaction and digital propaganda for radicalization are highly debated and disputed topics (Meleagrou-Hitchens & Kaderbhai, 2017; Askanius, 2017).

In spite of the studies mentioned above, there are still significant gaps in the literature on women's role in this space and existing literature is often guided by gendered misconceptions and prejudices (Pearson & Winterbotham, 2017).

1.2.2. Violent far-right extremism

With the exception of the case studies provided by journalists Blomqvist and Bjurwald (2009) based on a mapping of 111 female activists and interviews with two former female activists in white supremacist groups and findings reported in MUCF's (2016) report on youth in violent extremism, we know very little of the

actions, attitudes and motivations of women in violent far-right extremism in Sweden today. Blomqvist and Bjurwald's (2009) mapping shows that the number of women in far-right extremism in Sweden has increased steadily since the 1980s. Their data of female members of NSF (National Socialist Front), which at the time of its dissolution in 2008 was the biggest neo-Nazi party in the country, indicate that the women were young when joining the movement with an average age of 19. The majority of the 111 women lived in Skåne and Västra Götaland. On average, they remained active members a little less than 2 years and 21 of the women were members for 3 years or more. Fourteen of them had criminal records.

Looking beyond Sweden, Blee (1996, 2002, 2005) has shed light on the role of women in the US white supremacist movement, more specifically the Ku Klux Klan and related neo-Nazi groups. She argues that scholarship on extreme right movements has generally seen women as apolitical, directionless, manipulated, and victimized. Koonz (1987) much like Blee rejects the position of women as passive objects, a notion she claims has led historians to fail to regard women in Nazi Germany as active historical subjects. Women in the Third Reich, Koonz argues, voluntarily adopted and internalized the Nazi viewpoint and therefore their behavior should be examined in terms of responsibility, reasoning, and guilt, previously examined in men only. These insights and historical lessons inform much of contemporary inquiry into the question of women in far-right extremism as well as feminist interrogations of terrorism/terrorism studies (Sjoberg, 2009; Sjoberg & Gentry, 2007).

In the context of Greece, Koronaïou & Sakellariou (2017) have studied the role of women in the Golden Dawn (far-right political party affiliated with violent crime and neo-Nazi ideology) and examine how the vision of the role of women is reflected in the activities of the organization. The Golden Dawn advocates for a return to traditional gender roles, i.e., for women to be mothers, wives and caretakers of the home and see women as cultural pillars and sexual objects who have a responsibility to reproduce in line with "their own race." Far more men than women voted for the party, the women of the organization had no influential positions, and women were encouraged to take a less visible role in the party (Koronaïou & Sakellariou, 2017).

Rippl and Seipel (1999) studied gender differences in far-right extremist groups in West German schools and found that violent acts of extreme far-right organizations are almost exclusively a male domain in which women do not take part in violent actions. Further, they suggest that while gender-specific differences are substantial at the organizational and behavioral levels, differences between men and women in far-right the extremism are much smaller at the attitudinal level (Rippl & Seipel, 1999).

Others have raised questions of how women handle being a part of a hyper-masculine/ male-supremacist group in relation to their political ambitions and self-interests as women. In one such study, no significant relationship between gender and traditional right-wing extremist values was found (Blee, 1996). The study argues that 25 percent of the members and 50 percent of the new recruits in racist groups are women and that the preconception of the phenomenon to be all-male makes us blind to important patterns, which may help us understand how recruiting takes place. Women are rarely seen in leadership positions though; instead, they feature in supporting roles and as part of the recruitment. Personal relationships are as important as ideological commitments for the women that were interviewed, and they often see their participation because of a position of resignation and despair

(Blee, 1996). Regarding women in the white supremacist movement and the Ku Klux Klan, Blee (2005) notes that women are fully capable of participating in the deadliest type of violence, but that the role of women often is on the periphery. The participation of women in the organization has increased over time and the role of women often is to facilitate and promote violence behind the scenes and to recruit new members (Blee, 2005). In a study of another organization in the US white supremacy movement, the authors advance two arguments related to the importance of women and motherhood in this particular fraction of violent extremism. First, women in the movement are construed as arbiters of white supremacy through their labor as mothers of children and managers of households. Second, the symbolic idea of white motherhood and "traditional" gender roles is used to normalize white supremacist ideology and appeal to potential followers (Rogers & Litt, 2004). These insights from the US context are consistent with the findings of a recent study of the gendered dynamics of the neo-Nazi movement in Sweden examining the online media practices of female activists in the pan-Nordic organization, the Nordic Resistance Movement (Askanius, 2019; 2021). This study further demonstrates that women in the organization tend to assume a less violent or militant tone in their rhetoric and are therefore thought to be particularly good recruiters of segments of the Swedish population who might be turned off by overtly violent or hateful/bigoted language. These findings echo previous research showing that white supremacist groups use women strategically when attempting to present themselves as relatively non-threatening, avoid police surveillance and occasionally run members for public office (Cooter, 2006). By positioning women in public view, they seek to present white supremacy as a normal form of social and political engagement. Finally, existing literature also indicates that women are important (f)actors in men's desistance and disengagement from far-right extremism (Blazak, 2004). Directing serious and sustained analytical attention to the role of women is thus important to understanding not only recruiting and radicalization processes but also questions of deradicalization and exiting routes.

1.2.3. Violent far-left extremism

The role of women in far-left extremism is understudied. Glynn (2009) studied texts written by female ex-members of the Red Brigades to try to understand the creation and narration of post-terrorist identity. Glynn (2009:4) suggests that "[w]here ex-terrorist male authors and protagonists seek to distance themselves from the violence of the past, they do so on a purely political level and without any apparent damage to their own self-identity. For female ex-terrorists, however, issues relating to identity and self-hood lie at the very heart of the project of narrating the terrorist past and the post-terrorist present." Here Glynn points to an interesting difference between men and women both when it comes to motivating participation in violent extremism and to the psychological function of that participation, indicating that ideological goals might be less important drivers for women. In both violent Islamic and far-right extremism, the role to be wives, mothers and to give birth to the next generation of the organization is seen as the most important role for women (Blee, 1996; Jacoby, 2015) and their "choice" to be homemakers is celebrated as a heroic deed in the service of the community and the greater good. We may understand these ideas of motherhood as expressions of "extremist maternalism"—a term coined by Mattheis and Winter (2019) to describe attitudes towards gender *across* the ideological spectrum, which "couches conservative, stay-at-home values in radical terminology and bestows counter-cultural appeal upon the very idea of

patriarchal subservience" (Mattheis & Winter, 2019: 3). Left-wing extremist movements have obviously distanced themselves from these specific gender roles, at least "officially". Even so, some studies suggest that behind this egalitarian facade, women in far-left movements still face repression and abuse (Kyriakidou 2010).

Studying the role of women in the Indian left-wing, Narain (2017) acknowledges that female members are known to be more brutal than men in the same positions and that joining a violent organization may be a way to escape the traditional gender roles of the culture. However, despite the egalitarian motives of these organizations women's nurturing role is often encouraged and women also need to work harder for their positions and have often faced repression within the organizations themselves, including sexual assault and abuse (Narain, 2017). Similarly, scholars have noted that women are overwhelmingly present within left-wing terrorist organizations mainly due to their egalitarian beliefs and ideological position of including racial and gender equality which have attracted and accepted women to far left-wing groups (e.g., Eager, 2008; Cunningham, 2007). Other findings indicate that, although women are more likely to be affiliated with left-wing organizations than men, women are nearly evenly represented in right-wing and left-wing terrorist groups at a criminal participation level, where women perpetrate violence in their roles within both right-wing and left-wing organizations at similar rates (Makin & Hoard, 2014).

2. Data and methods

We study women in violent extremist milieus along a number of dimensions, ranging from demographic and educational to criminal background and network relationships, and compare them to three reference groups. Our study population consists of women who have been identified by the Swedish Police and the Swedish Security Service as belonging to three violent extremist milieus: *violent Islamic extremism*, *violent far-right extremism*, and *violent far-left extremism*. The study population is a subset of a heterogeneous set of individuals that according to these agencies are considered to constitute antagonistic threats to Swedish society (see e.g., Agrell, et al., 2015; Rostami et al., 2018).

For this study we have three reference groups: the first reference group are the non-extremist biological *sisters to female extremists* in the study population.² The rationale for including this reference group is to hold effects of family background constant in the comparison, while simultaneously controlling for exposure to the extremist milieu. The second reference group consists of *men in the extremist milieus*. The third reference group consists of female members of *other antagonistic milieus*, excluding the study population. The rationale for including this group is that, despite their heterogeneity, these milieus offer alternative, and often violent, lifestyles that, save for the ideological content, have commonalities with the lifestyles of violent extremists, not least through a shared anti-social component.

The analyses are based on datasets compiled from Swedish governmental registers on crime, mental health, education, child welfare intervention, labor market attachment and affiliation to violent extremist milieus in Sweden.³ Besides information from the Swedish Police and Swedish Security Service on affiliation to antagonistic groups in 2017, our dataset contains longitudinal information from a number of Swedish national registers for the period 2007–2016. The data contain background information on demographics (year and region of birth), education (grades in compulsory school and highest attained level of education), employment and unemployment (yearly data on employment status and number of days per year on unemployment benefit), and social welfare (social welfare uptake by year).

Information on mental health is gathered from the Patient Register administered by the National Board of Health and Welfare. The National Board of Health and Welfare also provided information on child welfare interventions. Information on region of birth, immigrant background, sibling relationships, final grades from 9th Grade and educational attainment are provided by Statistics Sweden. Information on suspected crimes, time and type of offense, criminal background, and co-offending are from the Swedish national register of persons suspected of criminal offenses (henceforth, register of suspected individuals from the Swedish National Council for Crime Prevention (Brottsförebyggande rådet, Brå).

-
2. This group includes the following types of antagonistic milieus: criminal networks, partial organizations, street gangs, outlaw motorcycle clubs, mafia-type organizations, football hooligans and other extremists that are not affiliated to the study milieus. The share of women in these groups varies from a little more than 0.5 percent in football hooligans to some 10 percent in criminal networks and around 18 percent in other extremists (Rostami et al., 2018). See Rostami et al. (2017) for a discussion of criminal organizing.
 3. Ethical review and approval by Regionala etikprövningsnämnden i Stockholm (2017/537-31/5, 2017/1797-32).

Table 1 shows the composition of the study population and the reference groups. Our study population consists of 182 women in three violent extremist milieus. These women have 239 biological sisters that make up the first reference group. The second reference group, namely the men in the three violent extremist milieus, amount to 1,178 individuals. Excluding the study population, the other antagonistic milieus have 1,047 female members that make up the third reference group.

Table 1. Number of individuals in the study population and reference groups

Study group	Women	Sisters (Ref. I)	Men (Ref. II)
Violent Islamic extremism	106	157	679
Violent far-right extremism	41	53	341
Violent far-left extremism	35	29	158
Other antagonistic milieus (Ref. III)	1,047	-	-

2.1. Social network analysis

The register of suspected individuals is structured so all registered cases of suspicion contain information on the crimes and the suspects and the criminal case of the suspicion. An individual can be affiliated with more than one unique crime and be suspected more than once. This affiliation between individuals and criminal cases allows for constructing so-called co-offending networks (Sarnecki, 2001; Edling, 2017). A connection (link) is present between two individuals (nodes) if the two are suspected of committing one or more crimes in the same criminal case. To analyze the co-offending networks, we use social network analysis (SNA).

Social network analysis assumes that many types of social phenomena can be represented by two fundamental elements: nodes and links between nodes. In many networks, links have a direction (i.e., A likes B, but B dislikes A). In this case however, where a link is constituted by co-suspicion in crime, the links are undirected. A number of network properties are computed for the co-offending network, which means that we need to define a few concepts and measures before proceeding to the result section. To begin with, a component is defined as a part of the network within which all nodes can be reached through direct or indirect links, i.e., in steps of one link or more. The smallest type of component consists of two nodes. If all nodes are connected to each other through direct or indirect links, the network has only one component. Large networks often consist of many components, so it is interesting to see how much of the network is found in the largest component (the so-called giant component).

We use three node-level measures to characterize the nodes in the network. Degree is simply the number of links that a node has. Intuitively, nodes with high degree have more "power" and influence in a network than nodes with low degree centrality. Betweenness centrality is defined through the concept of the shortest path, which represents the sequence of links that can connect two given nodes using the minimum number of links. Betweenness centrality of a node is the fraction out of all the possible shortest paths that pass through that node (Freeman, 1977). Nodes

with high betweenness centrality act as bridges in the network, and thus can be assumed to have more power and influence than nodes with low betweenness centrality. Finally, clustering is a measure of how closely linked a node is to its neighboring nodes. It is measured by the local clustering coefficient, which is the proportion of a node's pairwise contacts that are related to one another (i.e., where the node is one of three nodes). If a node has a clustering coefficient equal to one, it means that all the node's contacts are directly linked to each other. A high clustering coefficient suggests strong social cohesion and interdependence.

We compute network properties with *NetworkX*, a python package for the analysis of complex networks (Hagberg et al., 2008), and we use Gephi for network visualization (Bastian et al., 2009). For a further discussion on SNA in criminal contexts, see (Sarnecki, 2001; Edling, 2017; Morselli, 2014).

2.2. Data limitations

Before we present the results, it is important to note some remarks regarding register data in general and police-based register data in particular. Police-based information has several limitations and biases from a research point of view. Because the material is based on police registers, it is the result of a number of organizational and administrative practices (see e.g., Rostami et al., 2018). These biases may depend, among other things, on police priorities and resources, the visibility of the organizations and individuals (e.g., symbols, social media accounts etc.) as well as stereotypical perceptions in society at large and within the law enforcement community, which can change over time and context. The Police tend to register people they come into contact with more often, which means that the more time an individual is criminally active, the greater the probability that she is the subject of police and security service interest (see e.g., Flyghed, 2000; Klein & Maxson, 2006).

Selection bias is another limitation of police-based data, i.e., factors that influence observation and consequently the inclusion of individuals into the data. Selection can result in certain groups being overrepresented while others are underrepresented resulting in biased estimations. Studies of street gangs for example, show that police-based information can deviate sharply from self-report surveys, where young people, native born, and women are often underrepresented in the police-based data. This is a natural consequence of the police tendency to focus on criminally active individuals who oftentimes also constitute the milieu's core members (Klein & Maxson, 2006). When it comes to police registration of extremists, one must remember that harboring extreme views is not in itself a crime. The police's focus must therefore be on individuals who are judged to pose a risk of crime (mainly violence) that are linked to these views. This can mean inter alia that women can be underrepresented in our study population.

3. Demographics, socioeconomic conditions and mental health

The distribution of the study groups (i.e., the study population and reference groups) by sex was shown in Table 1 above, which shows that a total of 182 women are found in the violent Islamic (106 individuals), violent far-right (41 individuals) and violent far-left (35 individuals) extremist milieus. The quantitative difference in number of female members reflects the total size of these milieus in our dataset, where the sum of men and women in the violent Islamic milieu is the largest (785 individuals), followed by violent far-right extremism (382 individuals) and violent far-left extremism (193 individuals). As would be expected, women constitute a small minority in all three milieus. However, their share varies considerably across the three extremist milieus. The largest share of women we find among violent far-left extremists, where they make up roughly 18.1 percent, in comparison to 13.5 percent among violent Islamic extremists and approximately 10.7 percent among violent far-right extremists. In comparison, women's share is only 8.2 percent in the other antagonist milieus (the third reference group). Thus, violent far-left extremism has a significantly higher share of female members than the violent Islamic and violent far-right milieus. And in turn, the proportion of women in the violent extremist milieu is higher than in other antagonistic milieus.

3.1. Age, region of birth and immigrant background

To characterize the demographic profile we analyze and present age, region of birth, and immigrant background. First, Table 2 reports the mean, median, modal age, and age range of the groups in 2016. Looking at the *modal age*, the typical woman in violent Islamic extremism is 27 years old, which is the same as the typical age among violent far-left women but a little younger than violent far-right women (29 years). Women in violent far-left extremism are more age-homogenous (lower standard deviation) than women in the other milieus. The youngest woman in violent far-left extremism is 19 years old and the oldest 41 years old. In contrast, the youngest woman in the violent Islamic milieu is 15 years old and the oldest is 63 years old, similar to the youngest (16 years) and oldest (57 years) violent far-right women. The oldest man in violent Islamic extremism and man in violent far-right extremism are both 70 years old, and man in violent far-left extremism is 65 years old.

Looking at the *mean age* distribution in 2016, we can see that there are no dramatic differences for women across the three milieus. Women in violent far-left extremism are slightly younger than women in the violent Islamic and violent far-right milieus. In both the violent far-right and violent far-left milieus, women tend to be about a year younger than their male counterparts on average. Within the milieus, violent Islamic extremism stands out. Here the age difference between women and men is more pronounced, and women tend to be significantly younger than men on average, with a mean difference of almost 4 years and a median difference of 5 years. Women in other antagonistic milieus tend on average to be older than women in violent

extremist milieus.

We note an interesting pattern among the sisters of extremists. The mean age of biological sisters to women in violent Islamic extremism is considerably lower than than that of their extremist siblings, indicating that it is the older sisters that turn to extremism. For both violent far-right and violent far-left sisters, the relationship is the opposite. Although the mean age difference is not as large as in the violent Islamic milieu, this could suggest that on average it is the younger sisters that turn to violent far-right and far-left extremism. However, note that the absolute numbers of violent far-right and far-left sisters are relatively low and therefore we should be cautious with the interpretation.

Table 2. Age distribution of study population and reference groups, age in 2016

Study group	Group	Mean	Median	Mode	Range
Violent Islamic extremism	Women	29.4	26	27	48
	Sisters	21.0	20	25	55
	Men	33.3	31	26	56
Violent far-right extremism	Women	29.7	28	29	41
	Sisters	31.7	29	25	52
	Men	30.7	29	26	55
Violent far-left extremism	Women	27.8	27	27	22
	Sisters	30.1	31	29	39
	Men	28.7	28	28	48
Other antagonistic milieus	Women	33.4	30	24	79

We only have access to information on region of birth aggregated to seven regions: rest of Europe (i.e. excluding Sweden), North Africa, Sub-Saharan Africa, North America, rest of America, West and Central Asia, and rest of Asia and Australia.⁴ Figure 1 shows the proportion of individuals born in Sweden or in one of the seven birth regions. We can observe in Figure 1 that the violent extremist groups differ both in comparison with the three reference groups and between themselves. Violent far-right extremism is almost completely dominated by Swedish-born. In this group, more than 97 percent of the women are born in Sweden, similar to far-right men, with the remaining being mostly European-born. At 89 percent, women in the violent far-left extremism are also predominantly Swedish-born, and again there are no great differences between women and men in violent far-left extremism in terms of birth region. Both far-right and far-left extremists, women and men, tend to be born in Sweden to a much higher degree than women in other antagonistic milieus.

4. The region of birth classification is based on the United Nations Classification and definition of regions which can be found here: <https://esa.un.org/MigFlows/Definition%20of%20regions.pdf>. The data regarding region of birth is fairly comprehensive; there is missing information on region of birth only for 0.6% of the men in violent Islamic extremism.

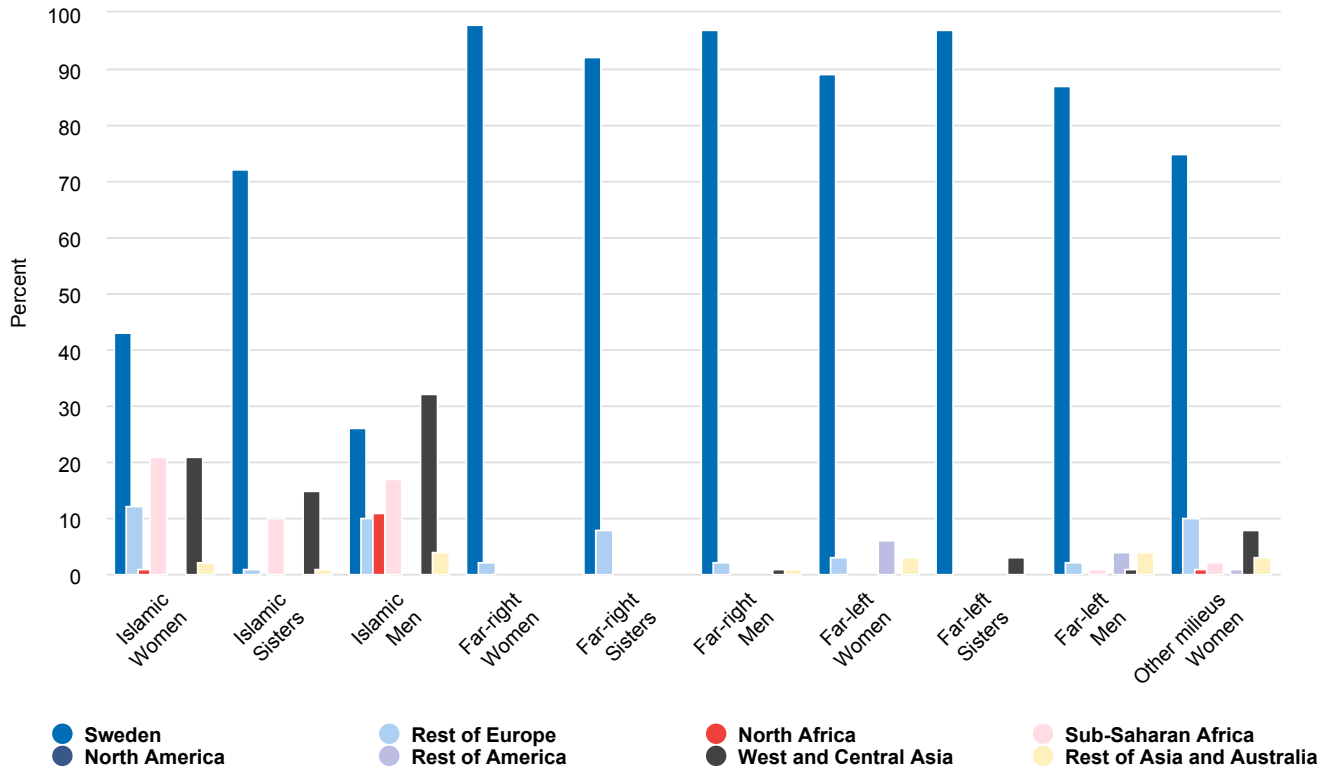


Figure 1. Share of individuals in each region of birth, within the study population and reference groups

Women in violent Islamic extremism tend to be born in Sweden to a greater extent than men in the same milieu. Approximately 43 percent of the violent Islamic extremist women are born in Sweden as compared to approximately 26 percent of the men in the same milieu. The largest birth regions among women in violent Islamic extremism that are not born in Sweden are West and Central Asia (21 percent), Sub-Saharan Africa (21 percent) and the rest of Europe (12 percent). This is somewhat similar to men in the same milieu, who also have a larger proportion born in West and Central Asia (32 percent) and Sub-Saharan Africa (17 percent) and also a substantial share born in North Africa (11 percent).

As for the sisters, there are only minor differences between women in far-right and far-left extremism and their biological sisters. However, it is interesting to note that the small fraction of sisters to women in far-left extremism that are not Swedish-born are born in West and Central Asia, while the small fraction of sisters to women in violent far-right extremism that are not Swedish-born are European-born. The sisters to violent Islamic extremist women, however, are to a much larger extent Swedish-born than both the women and men in that milieu (72 percent). This pattern reflects the observation made in relation to age differences between women in violent Islamic extremism and their biological sisters: those women who turn to violent Islamic extremism tend to be on average the older sisters.

In other antagonistic milieus, 75 percent of the women are Swedish-born. According to official statistics for the whole Swedish population, the proportion of Swedish-born is around 80 percent (SCB, 2020b). Women in other antagonistic milieus that

are not Swedish-born tend to be born in the rest of Europe (10 percent) and West and Central Asia (8 percent).

To sum up, women in violent far-right and violent far-left extremism tend to be Swedish-born to a greater extent than in their respective reference groups (biological sisters, men and other antagonistic milieus). Women in violent Islamic extremism tend to be foreign-born, although not to the same extent as men in violent Islamic extremism.

In Figure 2, we show the proportion of individuals with immigrant background for different categories: i) Swedish-born with both parents Swedish-born; ii) Swedish-born with one parent Swedish-born; iii) Swedish-born with both parents foreign-born; and iv) Foreign-born. We see that both far-right and far-left extremists are dominated by individuals born in Sweden with two Swedish-born parents, and that this tendency is much more marked for the violent far-right extremists. More than 92 percent of women in far-right extremism (and their sisters) are Swedish-born with two Swedish-born parents, as compared to men in far-right extremism, for whom about 20 percent have either one or two foreign-born parents. The difference between women and men in violent far-left extremism is much smaller, with 17 percent of women in far-left extremism being Swedish-born with one foreign-born parent, compared to 15 percent for the men.

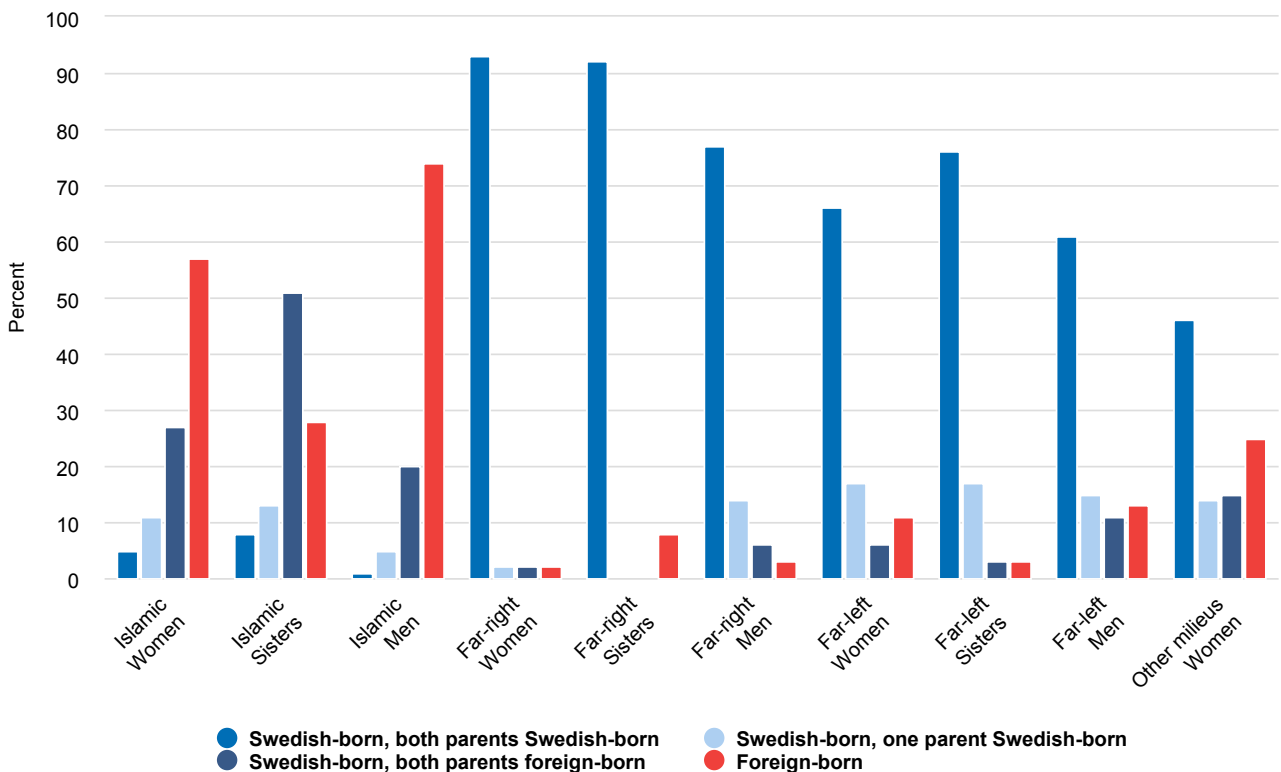


Figure 2. Share of individuals in each immigrant background, within the study population and reference groups

As illustrated in Figure 2, the largest proportion of foreign-born is to be found in the violent Islamic milieu, with more than 55 percent of violent Islamic women and almost 75 percent of the men being foreign-born. Among those women and men in Islamic extremism that are born in Sweden, it is most common that both parents are foreign-born. Some have one Swedish-born parent and very few have two Swedish-born parents. In the figures above we see that in contrast to the women in violent Islamic extremism, 72 percent of their sisters are born in Sweden, predominantly to foreign-born parents (64 percent).

3.2. School grades and educational attainment

Sweden has nine years of compulsory primary education and today, most young people continue to three years of secondary school (*gymnasium*). In the whole adult population only 11 percent have no education beyond primary education (SCB, 2020a). Admission to secondary school programs is competitive and is based on grades from primary school 9th grade. We use two indicators to measure differences in education: final grades from 9th grade, and educational attainment i.e., highest attained educational level. Both indicators are based on population registers maintained by Statistics Sweden.

The distribution of grades from primary school is displayed in Table 3.⁵ Before making any comparisons between groups, it is important to note that we lack information on grades for some individuals in the study groups. The missing information is mostly concentrated on men in violent Islamic extremism and the biological sisters to women in violent Islamic extremism (see Table 3). This can be due either to age at migration or to age, since sisters to violent Islamic extremist women are on average younger.

In the extremist milieus, women in violent far-left extremist perform best in school, with consistently higher grades (mean 7.3, standard deviation 1.5). The average score of women in violent far-left extremism is identical to that of their sisters, and women in violent far-left extremism perform on average substantially better than men in violent far-left extremism (mean 5.7, standard deviation 2.0). Men in violent far-left extremism in turn outperform both men in violent far-right extremism (mean 5.0) and men in violent Islamic extremism (mean 4.7). The weakest performers within the extremism milieus in terms of grades are men in violent Islamic extremism (note that we only have information on 47 percent of them), closely followed by women and men in violent far-right extremism (mean of 5.1 and 5.0 respectively). Women in violent Islamic extremism on the other hand perform on average similarly to men in violent far-left extremism, and they perform better than their biological sisters (mean of 5.6 compared to 5.0). This is not the case for women in violent far-right extremism, whose sisters outperform them by 0.5 on average. The comparison between the three extremist groups and the women in other antagonistic milieus at large once again reveals an interesting difference. Regardless of them being violent Islamic, violent far-right or violent far-left extremists, women in these milieus all performed better in school than the women in other antagonistic milieus (on average 4.4). The same goes for men across all three study groups.

5. The grades are constructed on a standardized scale from 0 to 10, out of two grading systems. The first grading system applies for grades from 1988 to 1997 and runs from 0 to 5, and the second for grades from 1998 to 2017 and runs from 0 to 320. The register contains information on grades from 1988 onwards.

Table 3. Grade distribution within the study population and reference groups (share of individuals with a grade in the register, grade scale from 0 to 10)

Study group	Group	% with grade	Mean grade	Grade std. deviation
Violent Islamic extremism	Women	63.2%	5.6	2.4
	Sisters	46.5%	5.0	2.7
	Men	47.0%	4.7	2.3
Violent far-right extremism	Women	87.8%	5.1	2.1
	Sisters	69.8%	5.6	2.3
	Men	90.3%	5.0	2.1
Violent far-left extremism	Women	94.3%	7.3	1.5
	Sisters	82.8%	7.3	1.4
	Men	97.5%	5.7	2.0
Other antagonistic milieus	Women	68.1%	4.4	2.3

As an indication of educational attainment, we use categories based on the Swedish education nomenclature (SUN), which includes a classification of levels of education aggregated to 7 levels. We collapse these categories into three levels: a) primary education, b) secondary education, and c) higher education. Individuals at the first level (a) have never been enrolled in secondary education. Individuals at the second level (b) have been enrolled in or completed secondary educational programs (*gymnasium*) of either 2 or 3 years of duration and/or post-secondary education shorter than 3 years. Individuals at the third level (c) have been enrolled in or completed higher education which includes post-secondary education of 3 years or longer (such as university studies) and doctoral studies. As is the case for 9th Grade grades, we lack information on educational attainment for some individuals, in particular for the sisters of women in violent Islamic extremism, where as much as 45 percent of the individuals have no available information.

The distribution of attained educational levels is given in Figure 3. The women in violent far-right extremism have the lowest levels of educational attainment: 44 percent of the women in violent far-right extremism have only primary education, compared to 31 percent of the men in violent far-right extremism. Women in violent Islamic extremism follow closely, among whom 35 percent have attained primary education only. For men in violent Islamic extremism that share is 29 percent. A little more than 56 percent of the women in violent Islamic extremism have been enrolled in or completed secondary education, similar to the share among men in violent Islamic extremism with 58 percent. Among women in violent far-right extremism, on the other hand, 44 percent have secondary education, which is significantly less than the 62 percent of men in violent far-right extremism that have been enrolled in or completed secondary education. Comparing women in violent far-right extremism to

their non-extremist biological sisters reveals that the former have significantly lower educational attainment than their sisters. Among the sisters of women in violent far-right extremism, 17 percent have primary education only, and 53 percent have been enrolled in or completed secondary education. Higher education is also almost twice as common among the sisters of women in violent far-right extremism as it is among the women themselves. Some 10 percent of women in violent far-right extremism have been enrolled in or completed higher education. This share is about twice as high as that of men in violent far-right extremism. The share of women in violent far-right extremism with higher education is similar to that of men in violent Islamic extremism. Women in violent Islamic extremism have the lowest share of individuals with higher education across all groups.

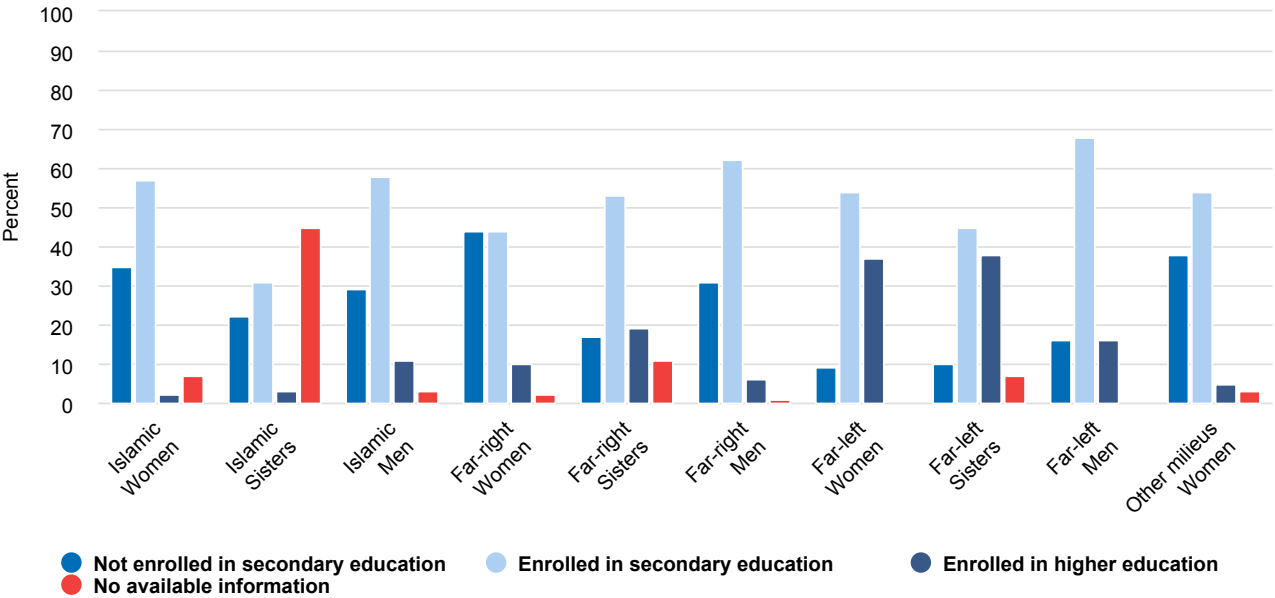


Figure 3. Educational attainment. Share of individuals at three levels of education, within the study population and reference groups

Violent far-left extremists differ substantially from the other two groups with respect to education. Over 90 percent of the women in far-left extremism have attained an educational level beyond primary education, and 37 percent have been enrolled in or completed higher education. Among men in violent far-left extremism, 17 percent have primary education only and 16 percent have been enrolled in or completed higher education. Comparing the three extremist milieus to women in other antagonistic milieus, we see that in general educational attainment is higher among violent extremists. The distribution across educational levels for women in other antagonistic milieus resembles that of women in violent Islamic extremism and women in violent far-right extremism.

3.3. Child welfare intervention and placement

Child welfare is a priority of the Swedish welfare state, and child welfare services should be notified upon indication that a child's health or development is at risk. Under the Social Services Act of 2001, professionals who are in contact with children and youth are obliged to report foul circumstances, abuse, etc. of which they become aware. An investigation of such a report could lead to an intervention and out-of-home care placement, up until the age of 18 if the problems are family-related and up to the age of 21 if related to own behavior. As estimated by the National Board of Health and Welfare, in 2018 some 8 percent of all children aged 17 or younger were subject to a report, and around 38 percent of these led to some sort of further investigation (Socialstyrelsen, 2019). The fraction of individuals who experience out-of-home care during their upbringing has been steadily increasing since the mid 1970s, emphasizing that the population with experience of out-of-home care is heterogenous in terms of time spent in out-of-home care. Berlin (2020) estimates that around 5 percent of the 1995 birth-cohort has had at least some experience. We have access to data from the Swedish Child Welfare Intervention Register that indicates if an individual has been subject to an intervention, and we use it as a rough proxy for the presence of significant social problems in the individual's home or close environment.

Figure 4 shows the fraction of individuals in each group that have experienced an intervention at least once during the period 2007–2016. Some interesting differences are immediately visible. None of the women in violent far-left extremist have been subject to an intervention, compared to between 7 and 8 percent of the women in the other two extremist milieus. It is also in contrast to men in violent far-left extremism among whom roughly 3 percent have experienced an intervention. Violent far-left extremists in general come from a less problematic social background, and this is particularly the case for women. A smaller fraction of men in violent far-right extremism have experienced an intervention compared to women in violent far-right extremism. Among violent Islamic extremists, however, the sex difference is the reverse of that of far-left extremists: in the violent Islamic milieu a larger share of women (7.5 percent) than men (close to 5 percent) have experienced an intervention. As we have also seen above, both violent far-left and violent far-right extremists tend to be Swedish-born to Swedish-born parents, while violent Islamic extremists tend to be immigrants and/or born to foreign-born parents from birth regions that statistically fare less well in Swedish society.

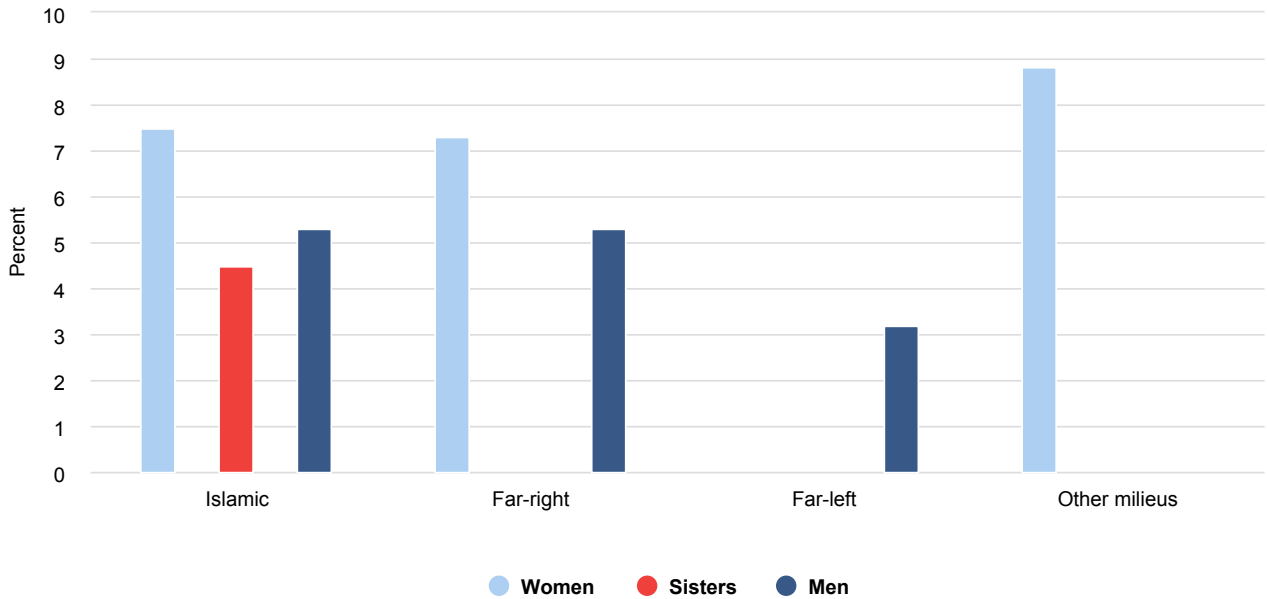


Figure 4. Child welfare intervention and placement 2007–2016. Share of individuals within the study population and reference groups

We also note that none of the sisters of women in violent far-right and violent far-left extremism have experienced an intervention, which is not the case among sisters of women in violent Islamic extremism, where 4.5 percent have experienced an intervention. This could be an indication that the issues provoking a child welfare intervention are more related to individual behavior in the case of violent far-left and violent far-right extremists, and more related to the family situation in the case of violent Islamic extremists. It could also be an indication that the social services responses may differ depending on the context from which these milieus emerge. More nuanced data on child welfare interventions and placements would be needed to further explore those hypotheses, though.

A final interesting observation with respect to child welfare intervention is the comparison between the three extremist milieus and women in other antagonistic milieus. Almost 9 percent of the women in other antagonistic milieus have experienced an intervention. In the extremist milieus, women in violent Islamic extremism and secondly women in violent far-right extremism approach similar levels but stay slightly below. This difference suggests that, compared to other antagonistic milieus, women in extremism on average suffer from a somewhat less problematic background, and in the case of women in violent far-left extremism a considerably less problematic background.

3.4. Labor market attachment and financial assistance

In this section, we report three indicators of labor market attachment and one indicator of dependence on social welfare: a) the share of individuals within each group that was gainfully employed in 2016, b) the share of individuals within each group that was gainfully employed in at least three of the last five years in the study period (2012–2016), c) the share of individuals that has been registered as unemployed for at least 90 days⁶ during at least one year the last five years, and d) the share of individuals in each group that has taken up financial assistance (social welfare) at least once during the last five years.

Indicators a, b and c are straightforward measures at the individual level. Even if indicator d is individualized, it is measured at the level of the household since financial assistance is means tested against the aggregate disposable income of the household. In other words, it indicates if the household to which the individual belongs has received financial assistance. In addition, we present e) the share of individuals in each group that have *not* been gainfully employed and have *not* received any social welfare benefit for the last five years, as well as f) the share of individuals in each group that does *not* show up in the register for employment status, the unemployment register or the social welfare register in the last five years. Taken together, these indicators provide a rough estimate of the individuals' socio-economic conditions.

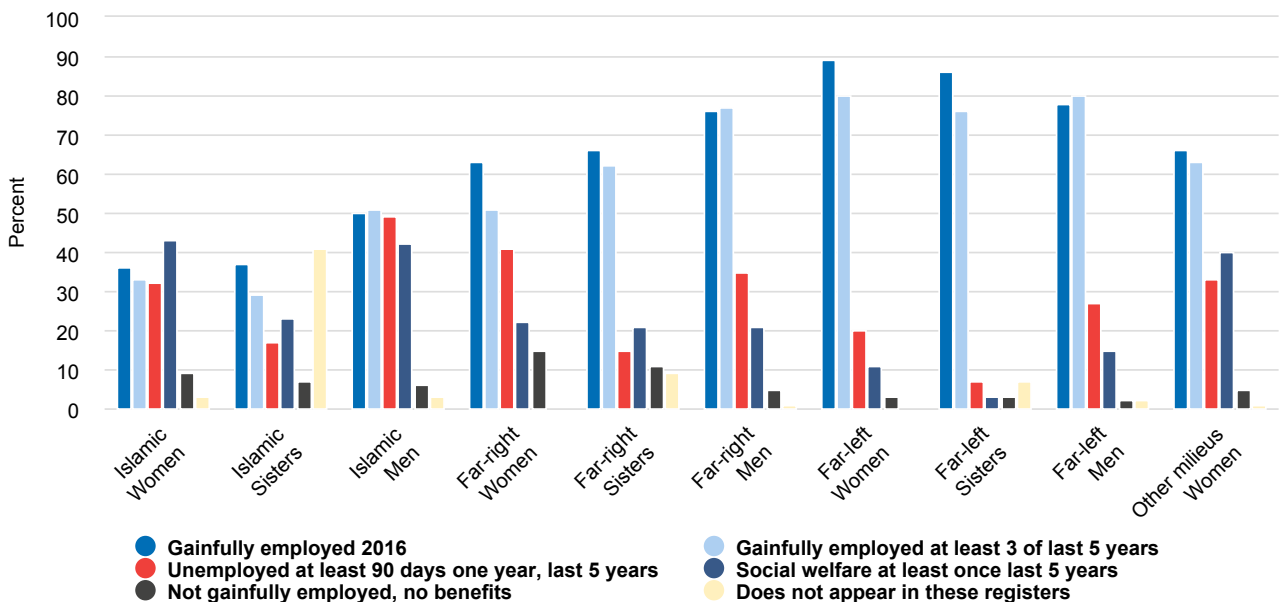


Figure 5. Labor market attachment and social welfare. Share of individuals within the study population and reference groups

6. We also computed the share of individuals that have been registered as unemployed for at least 60 days during at least one year in the last five years, and the pattern is essentially the same as the one reported here.

Some interesting differences emerge in Figure 5, both between the three extremist milieus and between women and men within each milieu. First, it is clear that violent Islamic extremists have the weakest labor market attachment and the highest dependency on financial assistance. Women in violent Islamic extremism have the lowest employment rate across all groups (36 percent employed in 2016, 33 percent have been employed at least three years in the last five years) but also a relatively high share of individuals with many unemployment days (32 percent). That men in violent Islamic extremism both have higher employment rates than the women in 2016 and over the past five years, and a higher share of individuals with unemployment (50 percent, 51 percent, and 49 percent respectively) suggests that among violent Islamic extremists, women are more socially excluded than men. We are not in a position to identify if this is due to self-selection or structural factors. Over 40 percent of violent Islamic extremists (43 percent of the women and 42 percent of the men) have received financial assistance during the last five years. For the sisters we note a similar employment rate as for the women in violent Islamic extremism for 2016, but both lower employment in the last five years, lower unemployment (17 percent), and lower dependency on financial assistance in the form of social welfare benefits (23 percent). Overall, the share of individuals in violent Islamic extremism that did not have either employment or social benefits in the last five years is fairly low, being slightly higher for the women (9 percent) than for their biological sisters (7 percent) and the men (6 percent). Note that as many as 41 percent of the sisters do not show up in these registers at all for the years 2012–2016, while 97 percent of the women in violent Islamic extremism occur in at least one of the registers.

Looking at the same indicators for women and men in violent far-right extremism, we observe that labor market attachment is much stronger than for violent Islamic extremists. About 63 percent of the women in violent far-right extremism were employed in 2016 (51 percent at least three years the past five years), compared to 76 percent of the men in violent far-right extremism (77 percent at least three years the last five years), and roughly on par with their sisters (66 percent and 62 percent respectively). The share of women in violent far-right extremism being unemployed at least 90 days in the past five years is 41 percent, higher than for men (35 percent) and much higher than for their sisters (15 percent). The dependency on financial assistance is significantly lower than among violent Islamic extremists, and similar across women, men, and sisters at a little over 20 percent. For the share of individuals with no employment or social benefits the last five years, we observe a gradient going from a relatively high value for the women in violent far-right extremism (15 percent) followed by their sisters (11 percent) and men (5 percent). Close to all women and men in violent far-right extremism show up in these registers, while 9 percent of the sisters have no presence in these registers.

We find the highest employment rate among women in far-left extremism, where 89 percent are gainfully employed in 2016 (80 percent at least three of the last five years) and 20 percent have been unemployed for at least 90 days during one year in the last five-year period. Men in violent far-left extremism have an employment rate around 10 percent below that of the women (although similar levels for employment the last five years) and similar to that of men in violent far-right extremism. Men in violent far-left extremism also have a higher share of unemployed than women in violent far-left extremism (27 percent compared to 20 percent). About 11 percent of the women in violent far-left extremism have received financial assistance the last

five years, compared to about 15 percent among men in violent far-left extremism. The sisters of women in violent far-left extremism have an employment share of 86 percent in 2016 and 76 percent in the last five years, and their share of unemployed (7 percent) and recipients of financial assistance (3 percent) is the lowest across all groups. The shares of individuals with no employment or benefits the last five years are overall very low, somewhat higher for women and biological sisters at 3 percent. The share of sisters that do not appear in these registers the last five years is 7 percent.

In comparison with the three extremist milieus, women in other antagonistic milieus have an employment rate for 2016 roughly at the same level as that of women in violent far-right extremism, with a somewhat higher share for the last five years. The share of unemployed is about 33 percent among women in other antagonistic milieus. The most apparent difference is that financial assistance during the last five years among women in other antagonistic milieus is very high, at 40 percent, which is comparable to that of women and men in violent Islamic extremism. This suggests that overall, women in violent far-right and violent far-left extremism come from more socially robust conditions than women in the violent Islamic and in other antagonistic milieus. The share of individuals with no employment or benefits and the share with no presence in the registers are low (5 percent and 1 percent respectively).

Thus, in general, women in violent extremism have lower unemployment figures than men in violent extremism, although this is less pronounced among violent far-right extremists. On the other hand, women in extremism tend to have lower employment shares than men, with the clear exception of violent far-left extremists, where the women have substantially higher employment rates than men. When it comes to financial assistance, women in the extremist milieus tend to have roughly the same share as men, except for violent far-left extremism where women have a lower share than men. Both women and men in violent Islamic extremism are weakly attached to the labor market and highly dependent on social welfare, while violent far-right extremists have a stronger labor market attachment but still have a high reliance on social welfare. Generally speaking, sisters to women in violent extremist milieus have lower unemployment share and lower financial assistance share, while their employment share often lies between that of men and women in the respective milieus, suggesting that extremists are less integrated into the labor market.

3.5. Mental health

Psychiatric disorders were collected from the Patient Register administered by the National Board of Health and Welfare. The register holds information (diagnosis, length of stay etc.) on all in- and out-patient contacts in Sweden and has been used in many previous studies (e.g., Sariaslan et al., 2013; Sariaslan et al., 2016). Due to confidentiality issues, we have access only to dichotomized variables based on a hierarchy of diagnoses (in line with Kyaga et al., 2011 and Caman et al., 2017).

Major mental disorders include schizophrenia and other psychotic disorders, schizoaffective disorder, bipolar disorder, and neuropsychiatric disorders including autism and ADHD. Unipolar depression, anxiety disorder, personality disorder and other diagnoses were coded as "other mental disorders." We distinguish between in-

patient contacts with major or other mental disorders, and out-patient contacts with either major or other mental disorders. It is important to note that in-patient contacts take priority over out-patient ones, so if an individual has had one or more in-patient contacts, she is categorized as in-patient, while the out-patient category consists of individuals that have been in contact with the system only as an out-patient.

In Figure 6, we see the distribution of grouped mental health diagnoses. The highest fractions of individuals that have not been in contact with the health system because of mental disorders are among violent Islamic extremism, with women's fraction at 84 percent, compared to their non-extremist sisters and men in the same milieu at 80 percent. Women in violent far-left extremism have the highest prevalence of in-patient major mental disorders among the extremist milieus (3 percent), higher than men in violent far-left extremism (less than 1 percent) and higher than both the women and their sisters in the extremist milieus. These values are up to ten times higher than the value in the normal population, which for 2019 was around 0.3 for individuals between 18 and 74 years (Patient Register, 2021). Women in violent Islamic extremism do not have registered major mental disorders. In general, sisters to women in violent extremist milieus have lower prevalence of in-patient other mental disorders, with the exception of women in violent Islamic extremism. The prevalence of in-patient other mental disorders among women in other antagonistic milieus, at 23 percent, is generally higher than for the extremist milieus, only exceeded by women in violent far-left extremism (26 percent). The fraction of individuals with only out-patient mental disorders is higher than for in-patient disorders, with the highest values among women in violent far-left extremism (29 percent) and women in violent far-right extremism (27 percent).

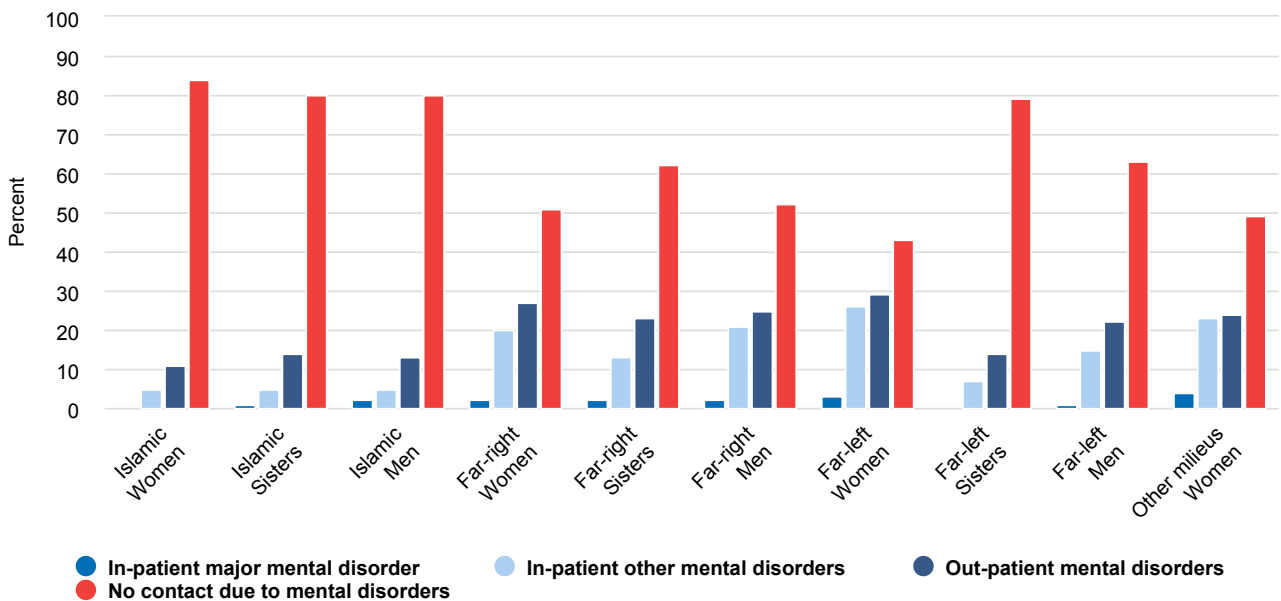


Figure 6. Distribution of grouped mental health diagnoses. Share of individuals within the study population and reference groups

4. Crime and co-offending

From the register of suspected individuals, provided by the Swedish National Council for Crime Prevention (Brå), we analyze every suspected crime over the period 2007–2016, telling us how many crimes an individual has been suspected of and for every suspicion, what type of crime(s) she has been suspected of.

Take note that not all individuals that the Swedish Police and the Swedish Security Service consider extremists have been suspected of crimes. In the period 2007–2016, 68 percent (921 individuals) of those in the study population are covered by the register of suspected individuals. The coverage is substantially higher for men, 72 percent (843 individuals), than for women, 43 percent (78 individuals). Thus, while in the case of men we see a clear connection between affiliation with violent extremism and traditional crime, this is not as clear in the case of women, where more than half of the women affiliated with violent extremism have never been suspected of a crime during the period. For other antagonistic milieus, 66 percent are covered by the register of suspected individuals in this period.

It is important to note that when we write about committing crime or having a criminal record, we refer to registered crime suspicions which means that all suspicions do not have to lead to prosecution or conviction. However, it is our understanding that an individual would not be reported as a criminal suspect unless there was a strong indication that that individual had committed a particular crime. Because individuals are sometimes suspected of committing crimes together, the information from the register can also be used to trace connections between two or more individuals who are suspected of committing the same crime, so-called co-offending, as explained in the Data and methods section. The co-offending relationships allow us to construct networks of criminal collaboration, and these networks are presented and described in this section.

4.1. Suspicion of crime and type of offense

Figure 7 shows the distribution of the number of suspected crimes for the period 2007 to 2016. This clearly shows that suspicions of criminal offenses are not evenly distributed across the groups. As has already been mentioned, most women in violent extremism do not have a criminal record for the period. However, there is a marked difference between women in the three milieus. 37 percent of women in violent Islamic extremism have been suspected of at least one crime, compared to 44 percent of women in far-right extremism, and 60 percent of women in far-left extremism. Compared to their sisters, women in all three groups are criminally active to a much higher extent. Between 10 and 17 percent of the sisters have been suspected of committing at least one crime. However, women in all three groups are less criminally active than women in other antagonistic milieus, among whom 66 percent have been suspected at least once. In all three milieus, the share of men with a criminal record is about twice as large as that of women. The difference between men and women is particularly pronounced among violent far-left extremists.

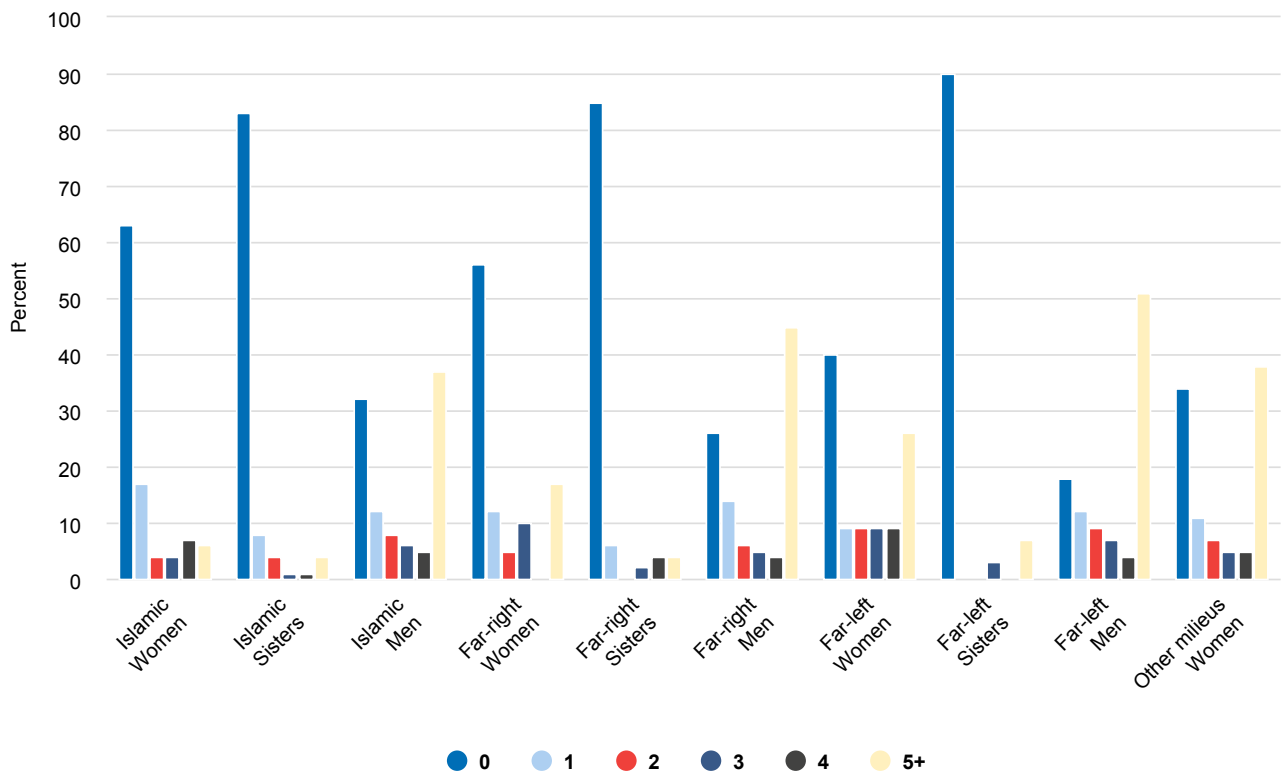


Figure 7. Number of suspected crimes 2007–2016. Share of individuals within the study population and reference groups

Turning to those who have been suspected of committing five crimes or more, we can see clearly that women are underrepresented compared to men in all three milieus. It is also notable that, compared to women in other antagonistic milieus, the shares of women who have committed five or more crimes are lower in all three extremist milieus, and much lower among women in violent Islamic and far-right extremism. The share of women in violent far-left extremism suspected of at least five crimes is almost 26 percent, compared to 17 percent among women in violent far-right extremism, and a little below 6 percent among women in violent Islamic extremism. We speculate that, as a consequence of the political dimension of far-right and far-left extremism, some of their criminal activity is rather visible, and that this could explain the observed difference. However, overall the share of women in violent extremism suspected of committing at least five crimes is lower than among women in other antagonistic milieus, where the share is 38 percent. While the differences are smaller among men in the three groups, the trend is the same so that 37 percent of the men in violent Islamic extremism have been suspected of five crimes or more, compared to 45 percent of the men in violent far-right extremism and 51 percent of the men in violent far-left extremism. A small share of the sisters have been suspected of five crimes or more (between 4 and 7 percent).

The code for crime type in the register of individuals suspected of crime builds on the Swedish penal code and contains over 600 different codes. The code can be

aggregated into larger families of crime types, and we settled for the six aggregate types of crimes that occur most frequently in suspicions against an individual who belongs to one of the three extremist milieus. These are *violence*, *threats*, *weapons*, *theft*, *drugs*, and *fraud*. All remaining types of crimes are collapsed into the category *other offenses*. Violence encompasses assault or homicide, with or without the use of an object or weapon, as well as robbery, arson, and riots. Threat also includes harassment. Weapons refer to unlawful possession of firearms and other weapons. Theft includes burglary. Drugs include drug-related crimes, smuggling, and driving under the influence of drugs.

In Figure 8, we display the average number of crime suspicions by type of offense per individual in each group. When interpreting these distributions, it is important to keep in mind Figure 7, and the varying share of individuals in each category ever suspected of a crime. The sisters suspected of crime are so few for all three extremist milieus that their crime type statistics should be interpreted with caution. Considering that many women affiliated with violent extremism have never been suspected of a crime, we notice that when women in violent extremism are suspected, a sizable fraction of those crimes are related to violence, most saliently in the case of women in violent far-left extremism. The number of crimes per individual for women that have been suspected of violent crimes is always lower than the respective numbers for men (0.3 vs. 1.5 crimes per individual for violent Islamic extremism, 0.5 vs. 2.1 for violent far-right extremism, and 2.7 vs. 3.0 for violent far-left extremism). The number of violent crimes per individual is overall higher in all extremist milieus than in other antagonistic milieus and for the sisters of women in extremist milieus. Recall from Figure 7 that, in general, women in other antagonistic milieus have been suspected of crime to a larger extent than women in the extremist milieus.

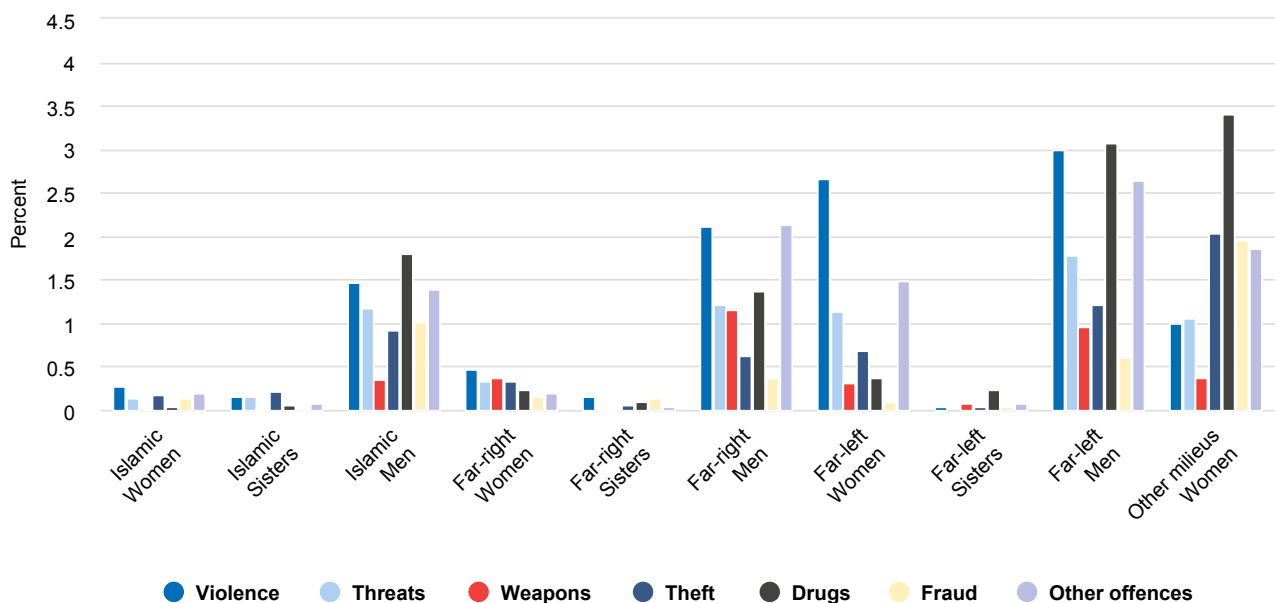


Figure 8. Type of suspected crime, 2007–2016. Number of crime suspicions per individual within the study population and reference groups

Beyond violence, threats and theft also make up a share of the crimes for which women in violent extremism are suspected. Fraud is also an offense category that features, especially for women in violent Islamic extremism and for women in violent far-right extremism. We also see that women in violent far-right and far-left extremism are suspected of weapon- and drug-related crimes. Compared to men, women are to a lesser extent suspected of crimes, across all types of crime and across all three milieus. For example, among women in violent Islamic extremism, drug-related crime amounts to 0.04 crimes per individual, whereas it accounts for 1.8 crimes per individual among men in violent Islamic extremism. The difference is similar among violent far-left extremists, with women having roughly 0.4 crimes per individual, compared to approximately 3.1 crimes per individual among men. When it comes to drug-related crimes women in extremist milieus also differ with respect to women in other antagonistic milieus, where the latter tend to be suspected of drug-related crimes much more often (3.4 crimes per individual). Turning to suspicion of weapons-related crime, violent far-right extremists have the highest number of suspicions per individual, followed by violent far-left extremists. Among women in violent far-right extremism, weapons-related crime accounts for around 0.4 crimes per individual, and around 0.3 crimes per individual in violent far-left extremism. Women in violent Islamic extremism are at the other end of the spectrum: weapons-related crime is almost non-existent at 0.01 crimes per individual. For women in other antagonistic milieus, close to 0.4 crimes per individual are weapons-related.

4.2. Co-offending

When a crime is committed by two or more individuals, it is referred to as co-offending. Criminologists have paid special attention to co-offending in relation to youth delinquency and gang-related crime (Sarnecki, 2001), and today co-offending is one of several core dimensions in assessments of collaboration and network structures in violent extremism. In this section we construct the co-offending networks of women in violent extremism and calculate the network statistics as explained above in Section 2.1. The co-offenders might be anyone inside or outside the violent extremist group: other women or men in violent extremism, in other antagonistic milieus, or other suspected individuals with no affiliation to violent extremism or other antagonistic milieus.

We construct two co-offending networks, centered on two groups. The first co-offending network is centered (i.e., sampled) on the 78 women affiliated with one of the three extremist milieus that have been suspected of committing at least one crime over the period 2007 to 2016. The objective here is to investigate the surrounding collaboration neighborhood of the women in violent extremism. All in all this network, shown in Figure 9, contains 474 individuals (women in violent extremism and their co-offenders), depicted as nodes, connected by 5,238 links encompassing 1,313 suspected crimes. In Figure 9a, the network nodes are colored by sex, and in Figure 9b by group affiliation. Note that the circular shape of the network plots and the position of the nodes are for visual convenience only and do not in themselves contain any information.

The second co-offending network is centered on all individuals affiliated with violent extremism, both women and men. Here the objective is to see the relative position of women with respect to men in each of the violent extremist milieus. This network

(shown in Figure 10) has 3,619 nodes and 28,995 co-offending links encompassing 18,275 suspected crimes. The coloring scheme is the same as for the previous figure: nodes colored by sex in Figure 10a, and nodes colored by group affiliation in Figure 10b.

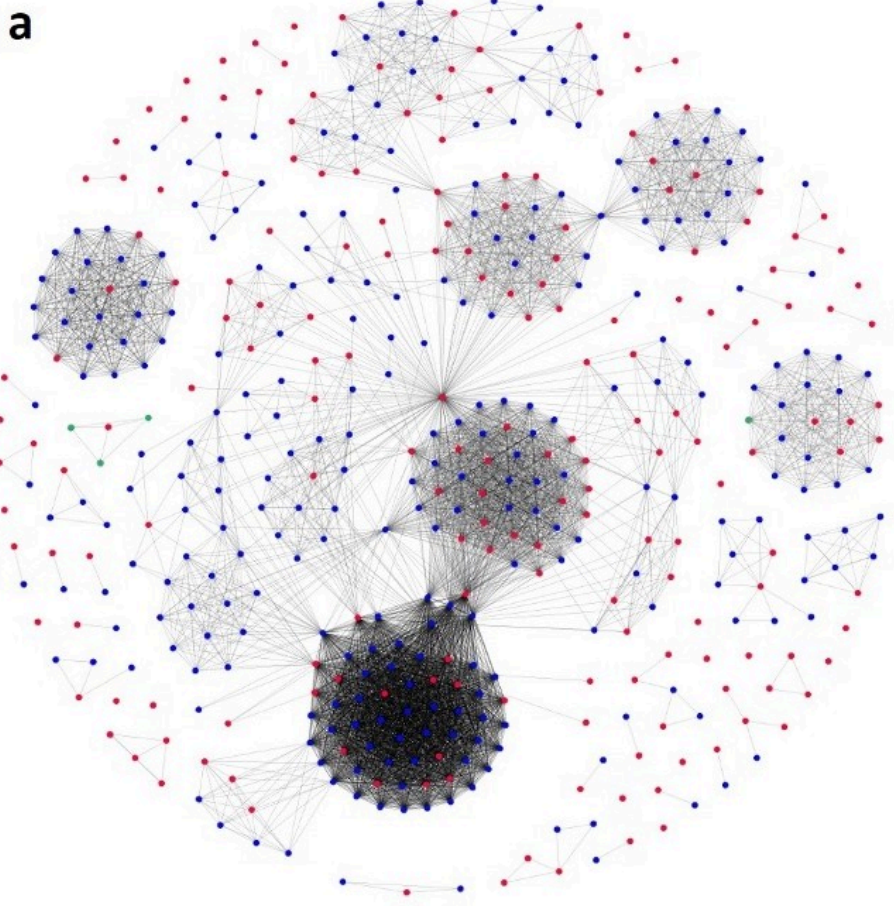


Figure 9.a. Co-offending network centered on women in violent extremism (474 nodes, 5,238 links). The nodes in the network represent individuals suspected of committing crimes and links represent co-suspicion in the same criminal case. The networks are built by collapsing all co-offending relations in the register for suspected individuals for the period 2007-2016. Network colored by sex. Color key: red: woman, blue: man, green: sisters to women in violent extremism.

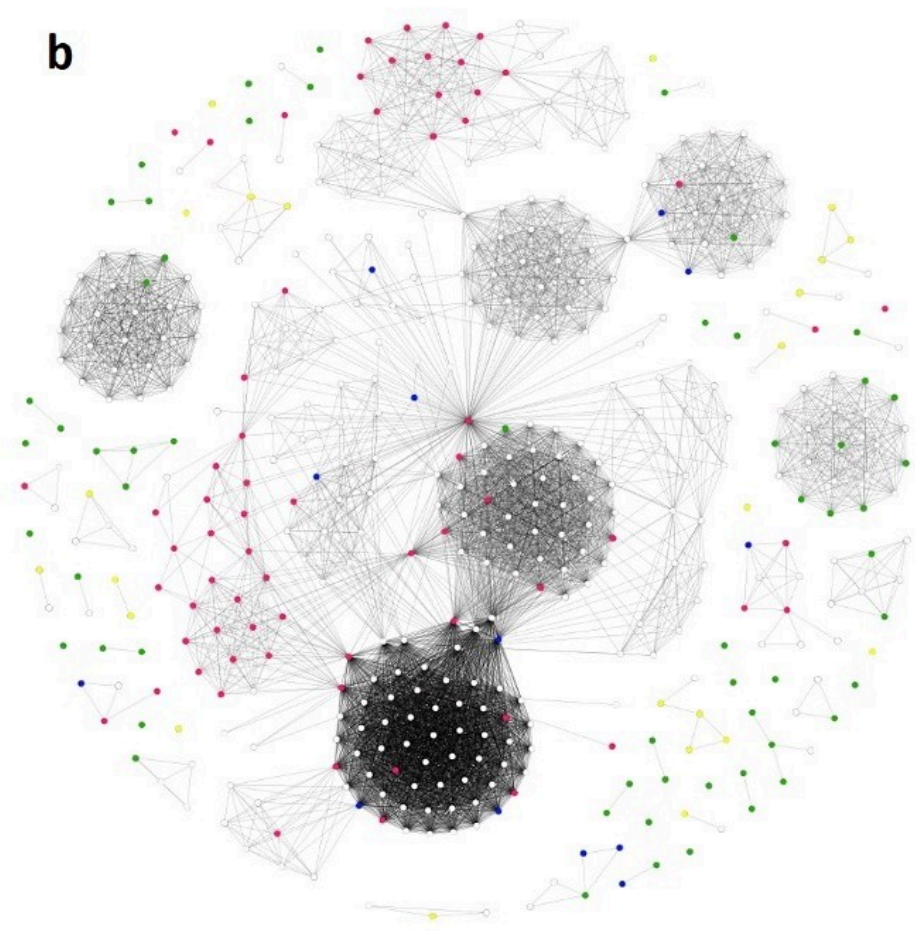


Figure 9.b. Network colored by group affiliation. Color key: green: violent Islamic extremism (including sisters to women in violent extremism), yellow: violent far-right extremism, red: violent far-left extremism, blue: other antagonistic milieus, white: rest of suspected individuals

While the network graphs provide a quick and broad overview of the network, to get a better numerical grasp of these visual patterns, Table 4 reports the node properties of the first co-offending network (centered on women only, Figure 9), while Tables 5 and 6 report node and link statistics of the second co-offending network (centered on extremist women and men, Figure 10). When analyzing the first co-offending network we should note that the network construction has women in violent extremism as a starting point, so if women are more central than other groups, it is partly so by construction. In other words, the graphs and network measures in the first co-offending network cannot be used to assess differences between women and men, nor between extremists and other co-offenders. They do however illustrate how women in violent extremism are connected through their embeddedness in the networks of criminal collaboration.

The network centered on women in violent extremism has one so-called giant component that directly or indirectly connects 63 percent of the offenders to one another through 88 percent of the co-offending links, while the remaining 37 percent of the nodes are distributed across 60 smaller components and isolates; see Table 4.

Overall, very few of the women in violent extremism are part of the giant component, and the women in violent extremism that do emerge in the giant component all belong to violent far-left extremism. In fact, 62 percent of the women in violent far-left extremism belong to the giant component, but none of the women in violent Islamic extremism and none of the women in violent far-right extremism do. At the same time, 44 percent of the women in violent Islamic extremism and 33 percent of the women in violent far-right extremism are isolates, compared to only about 9 percent of the women in violent far-left extremism.

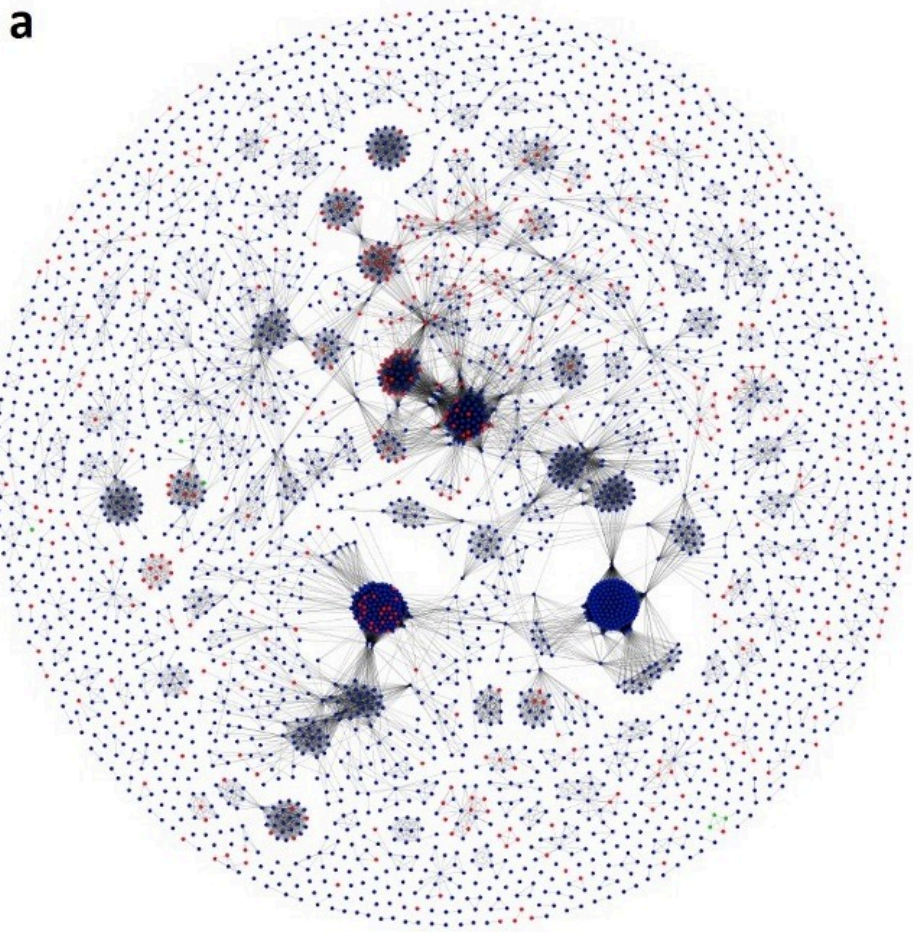


Figure 10.a. Co-offending network centered on all individuals in the extremist milieus, both women and men (3,619 nodes, 28,995 links). Network colored by sex. Color key: red: woman, blue: man, green: sisters to women in violent extremism.

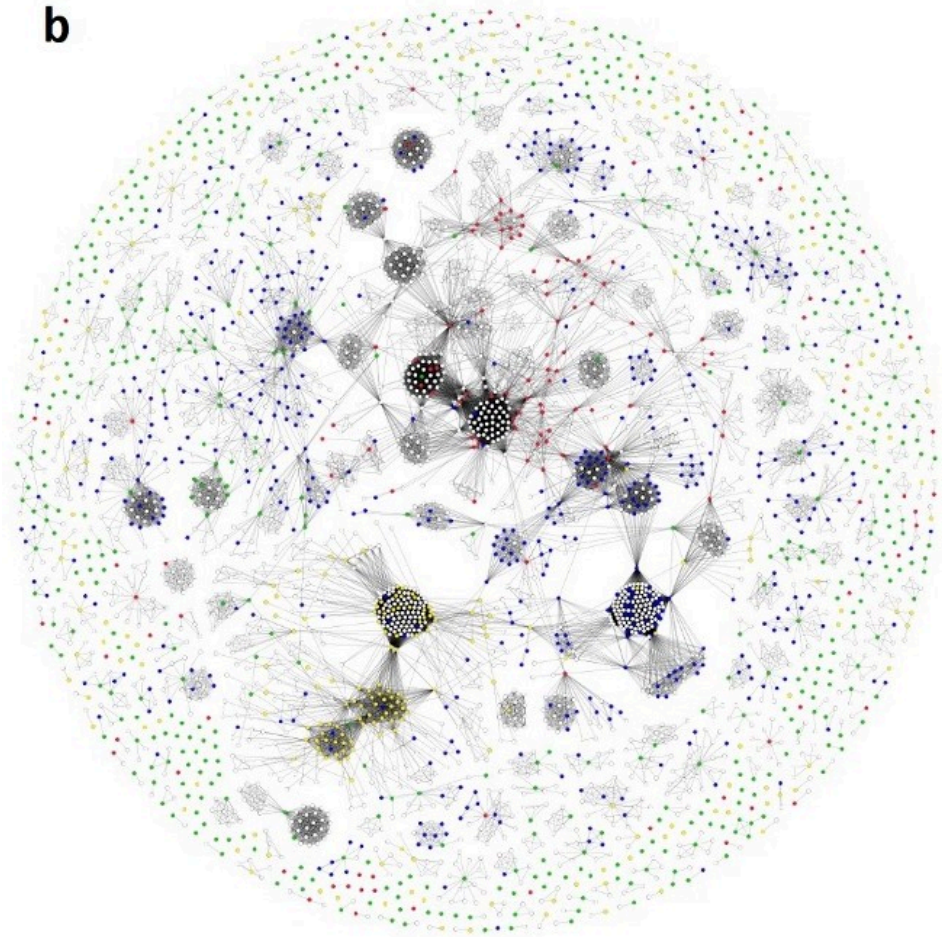
b

Figure 10.b. Network colored by group affiliation. Color key: green: violent Islamic extremism (including sisters to women in violent extremism), yellow: violent far-right extremism, red: violent far-left extremism, blue: other antagonistic milieus, white: rest of suspected individuals

In Figure 9, we see that women in violent far-left extremism, in comparison with women in the other two extremist milieus, tend to cluster together to a much higher degree, and secondly, that women in violent far-left extremism tend to have many more co-offending links to other co-offenders that do not have an affiliation to any extremist or antagonistic milieu. Looking at the centrality and clustering network measures in Table 4, we see that in general men in violent extremism have higher degree than women in violent extremism, in spite of the fact that the network is centered (i.e., sampled) on women in violent extremism. Women in violent far-right extremism have the lowest mean degree. Women in violent far-left extremism have the highest betweenness centrality of all the groups, indicating that they occupy a position in between a greater number of the shortest paths in the network, compared to women in the other extremist milieus and to male co-offenders. The local clustering coefficient for women is highest in other antagonistic milieus, followed by women in violent far-left extremism, women in violent far-right extremism and women in violent Islamic extremism. The sisters of women in violent Islamic extremism have a high clustering value but they are extremely few and therefore this statistic should be interpreted with caution.

Table 4. Node properties of the co-offending network centered on women in violent extremist milieus, suspected crimes in 2007–2016

Study group	Group	Nodes n (%)	Nodes in giant component n (% nodes)	Isolated nodes n (% nodes)	Mean degree	Mean betweenness centrality ($\times 10^5$)	Mean local clustering coefficient
Violent Islamic extremism	Women	39 (8.2)	0 (0.0)	17 (43.6)	2.51	0.16	0.19
	Sisters	4 (0.8)	0 (0.0)	0 (0.0)	7.25	0.00	1.00
	Men	15 (3.2)	2 (13.3)	0 (0.0)	13.73	0.00	0.60
Violent far-right extremism	Women	18 (3.8)	0 (0.0)	6 (33.3)	1.39	0.65	0.27
	Men	5 (1.1)	0 (0.0)	0 (0.0)	2.40	0.72	0.67
Violent far-left extremism	Women	21 (4.4)	13 (61.9)	2 (9.5)	22.14	1,453.81	0.47
	Men	47 (9.9)	44 (93.6)	0 (0.0)	26.19	206.12	0.89
Co-offenders in other antagonistic milieus	Women	1 (0.2)	1 (100.0)	0 (0.0)	6.00	0.00	1.00
	Men	12 (2.5)	7 (58.3)	0 (0.0)	26.50	176.33	0.81
Other co-offenders	Women	114 (24.1)	91 (79.8)	0 (0.0)	24.68	113.03	0.89
	Men	198 (41.8)	141 (71.2)	0 (0.0)	26.63	68.06	0.92
Total		474 (100.0)	299 (63.1)	25 (5.3)	22.10	144.97	0.79

Turning to the network of the second type, i.e., the network centered on both women and men in violent extremism (shown in Figure 10) we can observe differentials in the clustering level of co-offenders in the various milieus: both violent far-left and violent far-right extremism are clustered in the co-offending network, while individuals affiliated with violent Islamic extremism are more scattered in small clusters or isolates. The giant component of this co-offending network comprises a lesser percentage of nodes (48 percent instead of 63 in the previous network) while the fraction of co-offending links in the giant component is roughly the same (87 percent instead of 88 percent in the previous network). Isolated nodes constitute almost 9 percent of the nodes in the network.

In Table 5, we report the network measures of this co-offending network. In this network a comparison between women and men is more proper, since the network is centered on both women and men in violent extremism. In general, we see that women have lower degree, lower betweenness centrality and lower mean local clustering coefficient than men, with the exception of women in violent far-left extremism who have higher degree and a higher mean local clustering coefficient than men in the same milieu. It should be noted that, even though the mean betweenness centrality is lower for women in violent far-left extremism than for men, the values are quite near each other and are the highest in the whole network. This is an indication that women in violent far-left extremism are both very clustered and occupy brokerage positions in the co-offending network. Women in violent Islamic extremism have the highest fraction of isolated individuals in the network, a

little higher than men, and overall lower mean local clustering values. The betweenness centrality values for women in violent Islamic extremism are very low, especially compared to men in violent Islamic extremism. The clustering of women is also lower than that of men. Women in violent far-right extremism also have lower centrality and clustering values than men in the same milieu.

Table 5. Node properties of the co-offending network centered on women and men in violent extremist milieus, suspected crimes in 2007–2016

Study group	Group	Nodes n (%)	Nodes in giant component n (% nodes)	Isolated nodes n (% nodes)	Mean degree	Mean betweenness centrality (x 10 ⁵)	Mean local clustering coefficient
Violent Islamic extremism	Women	39 (1.1)	2 (5.1)	17 (43.6)	2.51	0.02	0.19
	Sisters	6 (0.2)	2 (33.3)	0 (0.0)	5.33	0.01	0.58
	Men	460 (12.7)	69 (15.0)	187 (40.7)	4.20	43.40	0.24
Violent far-right extremism	Women	18 (0.5)	4 (22.2)	6 (33.3)	1.39	1.49	0.28
	Men	253 (7.0)	118 (46.6)	71 (28.1)	22.11	64.59	0.46
Violent far-left extremism	Women	21 (0.6)	14 (66.7)	2 (9.5)	22.14	201.40	0.48
	Men	130 (3.6)	71 (54.6)	31 (23.8)	16.46	214.28	0.38
Co-offenders in other antagonistic milieus	Women	9 (0.2)	3 (33.3)	0 (0.0)	4.89	0.02	0.72
	Men	546 (15.1)	326 (59.7)	0 (0.0)	16.18	84.91	0.81
Other co-offenders	Women	359 (9.9)	200 (55.7)	0 (0.0)	17.16	6.59	0.81
	Men	1,778 (49.1)	939 (52.8)	0 (0.0)	18.37	7.27	0.81
Total		3,619 (100.0)	1,748 (48.3)	314 (8.7)	16.02	35.94	0.68

Finally, in Table 6 we depict the distribution of co-offending links in the network centered on both women and men in violent extremist milieus. Using the absolute number of links directly could be misleading, since there are size differences between the node groups being compared, especially the group of other co-offenders. In order to take group size into account, the number of links between each pair of groups has been divided by the geometric mean of the number of nodes in the groups of origin and destination of the link, i.e., the square root of the product of those numbers. For example, the number of links between women in violent far-right extremism and men in other antagonist milieus is 13, and the number of nodes in the groups are 18 and 2,324 respectively, resulting in 0.06 links per node. From the matrix, we can calculate the average number of links per individual for co-offending interactions between women and between women and men. The average number of links between women and men is 1.00 links per individual, while the average number of links between women and other women is 0.65 links per individual. Both these

figures are lower than for the co-offending interaction of male suspects with other male suspects, which amounts on average to 2.11 links per individual.

For links within the extremist milieus, the maximum number of links per individual goes in general to co-offending involving violent far-left extremists. Co-offending between women in violent far left-extremism amounts to 0.76 links per individual with other women in the milieu, 1.99 links per individual with men in the milieu, and 2.03 links per individual between men in violent far-left extremism and other male co-offenders in the same milieu. Co-offending interaction between men in violent far-right extremism with other men in the same milieu amounts to 4.71 links per individual.

Table 6. Link properties of the co-offending network centered on women and men in violent extremist milieus, suspected crimes in 2007–2016. Average number of links per node between each group

Group		Women				Men				Sisters
		Islamic	Far-right	Far-left	Others	Islamic	Far-right	Far-left	Others	Islamic
Women	Islamic	0.08								
	Far-right		0.06							
	Far-left			0.76						
	Others	0.18	0.04	1.41	2.02					
Men	Islamic	0.13		0.03	0.41	0.30				
	Far-right		0.10		1.81	0.10	4.71			
	Far-left			1.99	1.62	0.04	0.02	2.03		
	Others	0.16	0.06	0.91	3.77	1.36	3.41	2.07	7.01	
Sisters	Islamic	0.33			0.09	0.15			0.08	0.50

5. Conclusion

We have presented an analysis of women in violent extremism, across various demographic and criminal indicators for violent Islamic, violent far-right and violent far-left extremism in Sweden, and compared them to same-sex siblings, to men in the same violent extremist milieus and to women in other antagonistic milieus.

There are both similarities and differences between milieus. In some cases, like for age and region of birth, there are commonalities between women in violent far-left and violent far-right milieus. When it comes to education, women in violent Islamic extremism are closer to women in violent far-right extremism. This is an indication that each milieu and group can have unique properties depending on various factors, but also that there can be changes in these properties over time. For example, Chermak and Gruenewald (2015) found that the education level among extremists that have committed terrorist crimes in the USA (expressed as a fraction of individuals with college education) went down from 70 to 35 percent after September 11, 2001. These results illustrate the importance of continuously investing in empirical data collection in order to have an updated picture of how these milieus develop and interact with each other.

There are other interesting findings, indicating unique configuration and properties of these milieus that can affect societal interventions. For example, we show that no women within violent far-left extremism have ever had contact with child welfare interventions. It could be the case that these women have not had a problematic upbringing or family relationships, but when looking at their criminal activities we see that 60 percent have been suspected of a crime and 26 percent have had a high criminal activity. A similar pattern can be observed regarding mental disorders. Around 57 percent of women in violent far-left extremism have registered some form of mental disorder, out of which 3 percent have had in-patient major mental disorders. This could indicate that there may be limited attention from the social services for this group due to dysfunctional families that manage to screen off social interventions, and that an increased risk of being drawn into violent far-left extremism remains undetected. It could also simply mean that there are functional family contexts in place. In contrast, 7 percent of women in violent far-right extremist and 8 percent of women in violent Islamic extremism have experienced child welfare interventions.

When it comes to violent Islamic extremism, we can see that it is on average the older siblings that turn to extremism. This raises the issue of family perspectives in extremism prevention. It also provides an indication that something may be gained from interventions in families where the older sibling turns to extremism, to safeguard the other siblings from similar tendencies. Furthermore, women in violent Islamic extremism have the weakest labor market attachment and the highest social welfare uptake. Based on our analyses, it seems that women in other antagonistic milieus come from backgrounds and live under circumstances that in several respects appear to be more difficult than those of women in violent extremism, e.g., lower education, higher social welfare uptake, higher crime activity, higher degree of child welfare intervention.

Crime patterns differ among milieus as well. Women in violent far-left extremism are more prevalent in violent crimes. The share of drug-related crimes is generally higher among men in extremist milieus than among women. Drug-related crime is also the most prevalent suspicion category among sisters to women in violent far-left extremism. Other antagonistic milieus have a higher fraction of individuals that have been suspected of one or more crimes, but the extremist milieus have higher numbers of violence-related crimes per individual, with women having lower values than men overall.

Looking at the co-offending networks centered on women in extremism, we see that women in violent Islamic extremism are the most isolated, followed by women in violent far-right extremism. Compared to women in the other two extremist milieus, women in far-left extremism have more connections and are more centrally located in their criminal collaborations, as indicated both by the highest mean degree and the highest betweenness centrality in the co-offending network. In the network centered on both women and men in the extremist milieus, we also see that women in violent far-left extremism have centrality and clustering measures that are both higher and closer to those values of men in the same milieu.

To a large extent women in violent far-left extremism have more stable and socially robust conditions when it comes to education and labor market attachment. In contrast, women in the two other violent extremist milieus have lower education, suggesting a higher exposure to social vulnerabilities. The average resources of women in far-right extremism seem to be stronger than the resources of women in violent Islamic extremism, as the latter's living conditions are further restricted by being immigrants or having immigrant backgrounds. It should be noted that women in other antagonistic milieus are similar in many respects to women in violent Islamic extremism. The difference being that the former have a much greater crime load.

As far as the gender aspect is concerned, we know that extremist milieus generally have a conservative view of the role of women. In our results, it is reflected in the low rates of crime in women compared to men, and relatively marginal positions in the co-offending networks. The fact that women in violent far-left extremism have stronger positions in their networks than women in the two other extremist milieus could be due to the fact that the ideology of this milieu allows for greater equality. This means that women in violent far-left extremism participate more often in political actions where violence is common than e.g., women in violent far-right extremism. Thus, women in far-left extremism have a more central role in the networks and are more often suspected of violent crime. This pattern of gender roles and criminal involvement is also found for women in violent Islamic extremism. This group has a more traditional view of the role of women than violent far-right extremists. As such, women in violent Islamic extremism are more socially isolated and less involved in crime, particularly violent crime.

The comparison between the women in violent extremism and their biological sisters reveals that there is a link between crime, social problems and extremism. Thus, when controlling for family background i.e., upbringing conditions, women affiliated with violent extremism seem to have more extensive problems than their sisters without such known affiliations. An interesting finding is that the likelihood of affiliation with violent Islamic extremism is greater for the older sister than the younger sister. This might be an artefact of data limitations discussed above, but it can also be hypothesized that the older sisters may have a weaker connection to Swedish society in immigrant families.

Although data from the Swedish Police and Swedish Security Service, such as those analyzed in this report, have its limitations, we believe that for this particular kind of phenomena they add an important piece of the puzzle. This report provides a rare description of women in violent extremism in a national population that invites many new questions. We close this mapping by calling for further studies of the scope of women's involvement in violent extremism, specifically on the Nordic region, that increase our understanding of the role of women in and around violent extremism. Why and how are women being recruited? What role do they play once in a violent milieu, and what tools will best work to counter this threat? Thus, we conclude that more research is needed to increase our understanding of the role of women in violent extremism.

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