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## Gender in the Jihad: Characteristics and Outcomes Among Women and Men Involved in Jihadist-Inspired Terrorism

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There has been relatively limited empirical investigation of the characteristics and activities of women involved in jihadism-inspired terrorism. To address this knowledge gap, we describe demographic characteristics, criminal history, organizational involvement, plot involvement, and foreign fighting of 405 women involved in jihadism-inspired terrorism. We also perform comparative analyses with a subgroup of women ( $n = 272$ ) matched to a sample of male terrorists ( $n = 266$ ). Women involved in jihadism-inspired terrorism were diverse in their ethnicities and countries of citizenship; the majority were legal, native residents of their countries. Most had completed at least high school; about half had no recent employment. Women rarely had criminal histories. Most women were linked to at least one terrorist organization, but were not often involved in plots. About half of the women attempted to engage in foreign fighting. Compared to men, women were more often born in 1990 or later, more likely to have no recent profession, and had significantly fewer crimes prior to radicalization. We found no differences on education or criminal activity after radicalization. Compared to men, women were more often associated with at least one organization and less likely to be involved in plots. Women were more likely to attempt foreign fighting at least once and were more often successful on their first attempt. We did not find differences on age of radicalization or age of first foreign fighting attempt. Implications for research, policy, and practice include the need for gender-informed theories of radicalization, threat assessment, and other counterterrorism strategies.

### ***Public Significance Statement***

The present study reveals differences in the backgrounds of women and men involved in jihadism-inspired terrorism, suggesting different pathways into terrorism. We further find differences in women's and men's terrorism-related outcomes, demonstrating that some types of terrorist activity are likely to vary by gender.

*Keywords:* terrorism, gender differences, foreign fighting, jihadism

Despite discussion among counterterrorism experts that women are becoming increasingly involved in terrorist organizations (Bloom,

2011; Cunningham, 2003; Jacques & Taylor, 2009), there has been relatively limited empirical investigation of the characteristics and ac-

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tivities of women involved in terrorism. In the extant research, terrorism-involved women typically have comprised too small of a sample to afford meaningful comparisons with their terrorism-involved male peers, if they were even mentioned at all (Dalton & Asal, 2011). As a result, theories of radicalization and terrorism involvement are male-centric, often ignoring the gendered contexts in which these processes take place. Yet, findings of research in related fields, such as interpersonal violence, gang involvement, and right-wing extremism, suggest that gender-informed prevention, threat assessment, and intervention strategies should have great likelihood of success in reducing violence (Cullerton-Sen et al., 2008; González, Freilich, & Chermak, 2014; Simon, Ritter, & Mahendra, 2013). Unfortunately, the knowledge base to contribute to the development of gender-informed counterterrorism strategies is lacking. To that end, the present study explores the characteristics and outcomes among women from Western countries involved in jihadism-inspired terrorism and compares them to a matched-sample of men. In the sections that follow, we briefly review the extant theory and research on women involved in terrorism to identify key knowledge gaps and to set the stage for the current work.

### Literature Review

While there has been an exponential growth in research on terrorism over the past 20 years (Silke, 2010), there have been relatively few rigorous empirical studies of female terrorists. To demonstrate, a recent systematic review of 205 articles addressing membership in terrorist organizations or perpetration of terrorist attacks found that just under two thirds ( $n = 126$ ) specified gender of the terrorist at all (Desmarais, Simons-Rudolph, Brugh, Schilling, & Hoggan, 2017). Of those, only 40 (19.5%) discussed female terrorists explicitly and just 22 (17.5%) presented any data that included female terrorists. None presented statistical comparisons between female and male terrorists. A second review of the literature focused specifically on female terrorism similarly showed limited reporting of data: of 54 articles, just over one third ( $n = 21$ , 38.9%) presented any statistical findings (Jacques & Taylor, 2009). Instead, most of the articles on female terrorism provide

a broad, historical overview of women's participation in terrorism. For example, only five articles (23.8%) in this review presented statistics describing the characteristics of the women in their sample. When comparisons were presented, authors described the prevalence of women and men within a terrorist organization or perpetrating terrorist acts ( $n = 15$ , 71.4%). Only one article reported statistical comparisons between women and men, which failed to identify differences in vis-à-vis engagement in suicide attacks. Consequently, the field lacks empirical evidence regarding the profiles of women involved in terrorism and how they may differ from those of men.

At the same time, there is evidence that involvement of women in terrorism may be increasing (Bloom, 2011; Cunningham, 2003; Jacques & Taylor, 2009). Based on the articles included in the Jacques and Taylor (2009) review, for example, it appears that women's participation in terrorism is growing in nine out of 11 terrorist organizations: European left-wing, Liberation Tigers of Tamil Eelam (LTTE), Domestic Latin American, Irish Republican Army, American right-wing, Euskadi Ta Askatasuna (ETA), Palestinian, Chechen, and Al Qaeda. Additionally, some descriptive work also suggests that attacks by women appear to be evolving over time. Using news sources, Margolin (2016) created a dataset of 97 terrorist attacks perpetrated by women in Palestine over a 30-year period (1965–1995). Results show how women's participation increases and changes over time: female attacks became more prevalent over time but decreased in intensity. Specifically, about three quarters of attacks carried out before 1986 were high-intensity attacks (involved a significant amount of planning, often over an extended period of time, and used weapons likely to inflict significant damage or loss of life), compared to just five high-intensity attacks in 1986 and after. Instead, low-intensity attacks, in which women used “knives, light weapons fire, or vehicular assaults” (Margolin, 2016, pp. 932–933), became more common. Although this study demonstrates important changes in women's participation in terrorist activities over time, it did not explore the characteristics of the women themselves.

The roles women play within terrorist organizations have been explored in a few studies, which typically find that women tend to be in

supportive rather than leadership or fighting roles (Chermak & Gruenewald, 2015; González et al., 2014; Jacques & Taylor, 2009). Again, however, there is some evidence that this may be changing over time, as a function of organizational and societal factors. For instance, research comparing women's predominant role in 13 terrorist organizations found that women often transition from passive supporters to active combatants as conflicts progress (Raghavan & Balasubramanian, 2014). Other work has found women are more likely to be involved in domestic, rather than international, terrorist activity, arguing that domestic action may be linked to societal power structures and women's empowerment (Gonzalez-Perez, 2008). Other work, still, has drawn from feminist theory and similarly identifies connections between terrorism and female empowerment. An ethnographic study of the Liberation Tigers of Tamil Eelam, for example, shows the historical roots of the ethno-nationalist conflict and how women's roles have developed, including new meaning for their gender identity and empowerment (Herath, 2011). Other work has found a connection between women's participation in terrorist violence and levels of women's rights and education within a country, suggesting again that an overall understanding of women's terrorist involvement is linked to empowerment. To demonstrate, one study found a connection between terrorist violence perpetrated by women, characteristics of the country in which they are based, and the characteristics of the terrorist organization with which they are affiliated (Dalton & Asal, 2011). In particular, the level of women's rights in the country was inversely related to rate of female participation in terrorist activity, while higher average level of education among women is associated with increased engagement in terrorism. Further, as terrorist organizations become larger and older, their use of women in violent action increases. The extent to which the findings of this macro-level analysis translate to individual-level factors associated with women's participation in terrorist activity is unclear.

Research on female suicide bombers and right-wing extremists suggests that women and men also may differ in their involvement in specific forms of violent action. For example, a study of suicide ( $n = 80$ ) and nonsuicide terrorists ( $n = 743$ ) who perpetrated attacks in Israel (Pedahzur,

Perliger, & Weinberg, 2003) showed that while women represented a very small proportion of the sample—just 1.3% suicide terrorists and 2.6% of their overall sample—women appear to be less likely to engage in suicide terrorism compared to men. Specifically, of 80 suicide terrorists, 79 were men (9.9% of the total number of men in the sample) and only one was a woman (5.0% of the total number of women). That said, the small sample size limited power to detect this potential difference. An investigation of women in right-wing extremist groups also suggests there may be differences between women and men who engage in extremist acts (González et al., 2014). Using data compiled from publicly accessible sources on violent crimes by far-right, environmental, and animal rights extremists in the United States, analyses showed that compared to men, women participated in fewer ideological crimes, were less often lone actors, and, across ideologies, were often bound by contractual marriage relationships. The extent to which these findings extend to women involved in terrorism in different countries—as opposed to right-wing extremism in the United States—is unclear.

Finally, the only large-scale comparison of male and female terrorists from diverse terrorist organizations supports the need for gender-informed theories of radicalization and counterterrorism strategies. Using data compiled from publicly available sources, Jacques and Taylor (2013) developed a large sample of women involved in terrorism ( $n = 222$ ) along with a comparison sample of men ( $n = 269$ ). Descriptive analyses showed that female terrorists were generally well-educated, young, single, employed, and native residents who seldom had criminal histories. Further analyses showed, that compared to the sample of men involved in terrorism, women were more highly educated, but less often employed, providing the first evidence of meaningful differences between the characteristics of women and men involved in terrorism. However, the extent to which these findings generalize to other samples of women involved in terrorism is unknown. Additionally, the authors examined only eight variables and did not test for differences in terrorism outcomes between women and men. We seek to extend these findings using more rigorous methods, including case control matching, and to clarify differences in outcomes, not just correlates, of jihadism-inspired terrorism.

## The Present Study

Given the increased involvement of women in terrorist organizations and activities, there is a critical need to examine the unique and shared characteristics of male and female terrorists (González et al., 2014; Jacques & Taylor, 2013; Margolin, 2016). The extant literature suggests that female terrorists may differ meaningfully from male terrorists in terms of their characteristics and outcomes. However, methodological limitations, including small sample sizes, reliance on descriptive statistics, and few statistical comparisons between male and female terrorists hinder conclusions based on the existing research. The current study builds on the extant work by exploring the characteristics and activities of women and men who spent their formative years in the West and went on to become involved in jihadism-inspired terrorist activity, organizations, or foreign fighting. Specifically, we sought to answer two research questions: (a) What are the characteristics of women involved in jihadism-inspired terrorism, including their demographic characteristics, criminal history, terrorism involvement and activities, and foreign fighting? (b) Do women and men involved in jihadism-inspired terrorism differ along these dimensions? In doing so, our overarching goal is to increase knowledge regarding the similarities and differences between women and men involved in jihadism-inspired terrorism to support gender-informed counterterrorism strategies.

## Method

Drawing data from a large, secondary dataset, we used a quasi-experimental design to examine and compare characteristics of women involved in jihadism-inspired terrorism with those of their male peers. We first examined demographic characteristics, criminal history, terrorism involvement and activities, and foreign fighting of all women included in the database. We then created a matched comparison group of men and compared them across these four domains. Details on our data, variables of interest, matching procedures, and analyses follow.

## Data

Data were drawn from the Western Jihadism Project, a database comprised of information

drawn from publicly available sources on known terrorism-involved individuals who spent formative years in the West (Klausen, 2017). Started in 2006, the Western Jihadism Project research team searches public records dating back to the early 1990s. For a detailed description of data collection procedures see Klausen (2016) and Barbieri and Klausen (2012). Constructs of interest included geographic information, such as residences, citizenships, and immigration status, in addition to demographic (education, occupation, age, religion), criminal behavior (types of offenses and dates), and terrorism-related factors (including terrorist group affiliation and terrorist plots). Data collection and coding is ongoing through the present day; herein we report on data collected as of September 2017.

Individuals are included in the dataset if they meet at least one of the following inclusion criteria: (a) subject of legal action related to terrorism in a Western court; (b) died while committing a terrorist act; (c) publicly identified as a terrorist by inclusion on an international watch list; or (d) self-identified as a foreign fighter on social media or in other media, or a plot or organization that has been identified as terrorist on the national or international level.<sup>1</sup> Individuals with whom the Western jihadists associate are also included, for use in mapping terrorist networks of influence. At the time of data extraction, the dataset comprised a total of 5,718 individuals, 405 (7.1%) of whom are women.

## Variables of Interest

**Demographic characteristics.** Women and men in the dataset were compared on their year of birth, education, profession, and conversion to Islam. *Year of birth* was categorized into quartiles as follows: (a) prior to 1974; (b) 1974–1982; (c) 1983–1990; and (d) after 1990. *Education* was defined as the highest level of completed education. Individuals were categorized into one of five possible categories (i.e., less than high school, high school, college, technical school, postgraduate) based on their known level of education, or inferred level of education in cases where their profession gave a

<sup>1</sup> Full details provided in the Western Jihadism Project codebook (August, 2017).



clear indication of the level of education required.

*Profession* was defined as the most recent profession held by the individual, except in cases where the individual has military or public/private security experience. Those who have served in the military were coded within the military category, regardless of other more recent professions they may have held after separating or discharge. Similarly, the label public/private security experience superseded all other professions, except military. Eight categories of most recent profession were observed within the sample of female terrorists ( $n = 405$ ): (a) IT professional; (b) medical professional; (c) caring service sector professional (i.e., teachers, counselors); (d) service/manual worker (i.e., cleaners, clerks); (e) military; (f) self-employed; (g) other industry; and (h) no recent profession. For our comparative analyses, profession was coded into one of five categories: (a) unskilled laborer (e.g., service/manual worker); (b) skilled laborer or professional (e.g., engineers); (c) military and police/security; (d) other (e.g., media personality); and (e) no recent profession.

*Conversion to Islam* was coded as yes, no, or unknown. Marking “yes” requires the individual to have been raised outside of Islam and later converted. It does not include individuals who have left the faith and later returned.

**Criminal history.** Information on criminal behavior was coded from lists of known crimes committed by each individual and the years in which they took place. *Criminal behavior prior to radicalization* was a count of any crimes that were committed prior to the individual’s year of radicalization. When year of radicalization was unknown, other known aspects of the crime (e.g., specific acts, locations, targets) were examined to determine whether it had any basis in religious extremism. Only crimes determined to be independent of involvement in extremism were recorded in this category. *Criminal behavior after radicalization* was a count of the number of crimes taking place after radicalization or those clearly motivated by extremism, except offenses linked to terrorist plots or acts. We also created variables representing the types of crimes committed prior to and after radicalization across seven possible categories: (a) assault/murder; (b) robbery; (c) theft; (d) fraud (including credit fraud and identity theft); (e) drug; (f) weapons smuggling; and (g) unspecified crime.

**Terrorism involvement and activities.** A number of variables described membership in terrorist organizations and participation in terrorist acts. *Age of radicalization* was computed by subtracting each individual’s year of birth from their recorded year of radicalization. *Year of radicalization* was defined as the year in which the individual first showed signs of endorsing an extremist ideology. It was often inferred from other markers, such as criminal behavior related to extremism, distributing extremist materials, or associating with a radicalized peer group. Each extremist organization with connections to individuals in the dataset was recorded and given an organization ID number to facilitate linking of people and organizations. Key information about organizations was recorded, including the name, general ideological affiliation, and years active. When individuals were associated with an organization, the nature of the affiliation and the organization ID were recorded and linked to the individual’s ID.

*Number of organizations* was calculated by counting the number of organizational links to each individual in the sample. *Role within organization* was coded as one of nine possible roles: (a) member; (b) supporter; (c) associate; (d) plot actor (e.g., involved with the planning or perpetration of a terrorist plot); (e) financial/logistical supporter; (f) leader; (g) recruiter; (h) visitor; or (i) other role. *Primary organizational affiliation* was defined as the first recorded organization link for each individual. For use in analyses, the variable was coded into four categories, which reflect the three most commonly affiliated with groups: (a) Islamic State group; (b) Al-Qaeda and affiliates, including Al-Qaeda central, Al-Qaeda in Iraq, and Al-Qaeda in the Arabian Peninsula; (c) Al-Shabaab; and (d) all other organizations.<sup>2</sup>

A similar approach was used with variables related to involvement in specific terrorist plots. Within the Western Jihadism Project, each plot connected to individuals within the dataset was given a plot ID. Key information on each plot was recorded, including start and end date, ideological affiliation, and type of action. *Number of plots* was calculated by counting the number of linked plots for each individual in the sample. *Plot type* was categorized into one of four

<sup>2</sup> Within the matched sample, no other single group had more than 10 individuals affiliated with it.

groups: (a) fundraising/support activities (e.g., supplying money or weapons to terrorist organizations); (b) incitement (e.g., proselytizing or distributing terrorist propaganda); (c) recruitment (e.g., recruiting for a terrorist organization or providing assistance with foreign travel to join or fight); or (d) violent acts (e.g., terrorist attacks, suicide bombings). Violent acts superseded all other labels, such that any plot directly intending to cause harm or death to other individuals was classified as a violent act, regardless of whether or not some of the other tactics were used to accomplish this goal. Acts of incitement that triggered violent action were classified under violent acts rather than incitement; all acts of incitement in the dataset remained nonviolent in that they did not directly result in death or harm.

**Foreign fighting.** Foreign fighting was defined as travel outside of the West to an insurgency zone during specified time periods in which extremist organizations were participating in the conflict. Key information was recorded about each foreign fighting attempt by an individual, including whether they were successful, the location to which they desired to travel, the beginning and end dates of their travel or participation, and whether they have returned to the West.

*Number of foreign fighting attempts* was a count of the total number of known foreign fighting attempts recorded for each individual. *Number of successful attempts* was a count of the total number of attempts noted as “successful,” defined as reaching the intended location and engaging in the conflict activities happening there, by way of a terrorist organization. Attempts not coded as successful fell into one of three categories: (a) prevented in the West; (b) prevented outside of the West; or (c) failed.<sup>3</sup> *Age at first foreign fighting attempt* was calculated by subtracting birth year from year of earliest foreign fighting attempt, regardless of outcome. *Location of foreign fighting* was recorded as the country to which the individual sought to travel to engage in foreign fighting during years of conflict in that region. There were five possible locations in the matched sample: (a) Afghanistan; (b) Iraq; (c) Somalia; (d) Syria–Iraq; (e) Yemen; and (f) multiple countries.

## Matching Variables

Variables used in case control matching were country of residence, legality of residence, ethnicity, and age at first law enforcement contact related to terrorism. *Country of residence* was defined as the country in which the individual had spent the majority of their time in the six months preceding involvement in terrorist action or foreign fighting. The variable capturing *legality of residence* was coded according to the primary country of residence, as defined above. For the purpose of matching, we used three categories: (a) legal residents of their primary country, either through citizenship or other legal means (e.g., visas, green cards, etc.); (b) undocumented individuals who were residing in the country illegally for at least six months; or (c) unknown. *Ethnicity* is a categorical variable capturing information about each individual’s ethnic background. Only one ethnicity was assigned to each individual, based upon the best available information about their and their family’s origin. For individuals from mixed-ethnic backgrounds, ethnicities other than Western superseded Western ones in coding. The final matching variable, *age at first law enforcement contact related to terrorism*, was calculated using year of birth and year of their first terrorism-related law enforcement contact, defined as the year the individual was first clearly identified as being involved in extremism-related activity (whether through the news media, the initiation of law enforcement surveillance of the individual, or arrest for involvement terrorist action).<sup>4</sup>

## Matching Procedures

Using case control matching, 266 matches from among the 5,313 men were found for 272 of the 405 women in the dataset, resulting in a

<sup>3</sup> Failed attempts were not prevented per se, but rather the individual was unable to engage with a terrorist organization in a foreign insurgency due to failures in planning or rejection by the terrorist organization.

<sup>4</sup> Although we would have preferred to use age of radicalization for matching purposes, this variable suffered high rates of missingness. For this reason, we used age of first terrorism-related law enforcement contact as a proxy for age of radicalization in our matching procedures.

final matched sample of 538 terrorism-involved women and men. Additional demographic characteristics were not used for matching due to our interest in comparing women and men on variables often identified in the literature as risk factors for terrorism, including education, profession, and other relevant characteristics (Desmarais et al., 2017). Pairwise comparisons confirmed that our matching procedure produced roughly equivalent groups across all four matching variables (see Table 1). Specifically, there were no significant differences between women and men in our matched sample in terms of their country of residence, ethnicity, legality of residence, and age at first terrorism-related law enforcement contact, all  $ps \geq .831$ . As may be seen in Table 1, just under half of women and men were residents of European countries. African and White-European ethnicities were most common, representing just under one third of both women and men. More than three quarters of women and men were legal residents of their countries. Mean age of first terrorism-related law enforcement contact was 29 years.

## Statistical Analyses

To answer our first research question, we calculated descriptive statistics within the sample of all women ( $n = 405$ ) for all variables of interest. To answer the second research question, we conducted a series of tests to test for group differences between the matched samples of women and men involved in terrorism. For categorical variables, most comparisons were conducted using chi-square analyses. When cell sizes were less than five, the conservative Fisher's exact test was used in place of chi-square analyses. When the omnibus chi-square or Fisher's exact test was significant, Bonferroni-corrected post hoc z-score comparisons were performed to identify within which levels or categories of the variable women and men involved in terrorism differed significantly. For continuous variables (e.g., age of first foreign fighting attempt), we conducted  $t$  tests. For count variables (e.g., number of plots), we conducted Poisson regression analyses to compare the number of occurrences of terrorism outcomes.

Table 1  
*Descriptive Statistics for Matching Variables*

Categorical variables	Men ( $n = 266$ )	Women ( $n = 272$ )	Comparison	
	$n$ (%)	$n$ (%)	$\chi^2$	$p$
Country			.11	>.999
Australia/New Zealand	10 (3.8%)	10 (3.7%)		
Canada	6 (2.3%)	6 (2.2%)		
Europe	114 (42.9%)	115 (42.3%)		
Great Britain	66 (24.8%)	68 (25.0%)		
International	4 (1.5%)	5 (1.8%)		
Nordic Countries	11 (4.1%)	11 (4.0%)		
United States	55 (20.7%)	57 (21.0%)		
Ethnicity			2.20	.974
African	83 (31.2%)	83 (30.5%)		
African American	3 (1.1%)	3 (1.1%)		
Asian	44 (16.5%)	44 (16.2%)		
Caribbean	3 (1.1%)	3 (1.1%)		
Eastern European	16 (6.0%)	16 (5.9%)		
Latino	2 (.8%)	3 (1.1%)		
Middle Eastern	34 (12.8%)	36 (13.2%)		
Native American	0 (0.0%)	2 (0.7%)		
White European	81 (30.5%)	82 (30.1%)		
Legality of residence			.03	.983
Legal	209 (78.6%)	212 (77.9%)		
Undocumented	2 (0.8%)	2 (0.7%)		
Unknown	55 (20.7%)	58 (21.3%)		
Continuous variable	$M$ ( $SD$ )	$M$ ( $SD$ )	$t$	$p$
Age of first extremism-related law enforcement contact	29.08 (8.57)	28.90 (10.69)	.21	.831



## Results

### Characteristics of Women Involved in Jihadism-Inspired Terrorism

Table 2 presents the descriptive statistics for the demographic characteristics, criminal history, and terrorism involvement among the full sample of female terrorists, including the rates of data missingness, which ranged widely from 6.7% missing ( $n = 27$ ) for conversion to Islam to 76.0% missing ( $n = 308$ ) for profession. In the sections that follow, we summarize findings as a function of the valid percent (i.e., women for whom information was available on the variable in question).

**Demographic characteristics.** Women in our sample were born between 1939 and 2001, with the majority born in the years after 1990. Women were of a diverse array of European, Middle-Eastern, North American, South Asian, and African ethnicities and held citizenships in a variety of countries (see Table 2). Information on ethnicity was available for just over three quarters of women in our sample. The most prevalent ethnicities were White-European, representing almost one quarter of women, followed by Moroccan, Somali, and Pakistani, each representing less than 10% of the sample. Approximately one in five women in our sample were citizens of the United Kingdom, which was the most common citizenship, followed by France, United States, Belgium, and Germany (see Table 2). More than two thirds of women were legal, native residents of the country in which they resided, and most had completed at least high school. Information on most recent profession was available in less than a quarter of the sample and, when known, indicated that just under half of women were not recently employed. Service/manual worker followed by caring service sector positions were among the most common professions (see Table 2). Finally, conversion to Islam was not very common—just under one third of women in our sample had converted to Islam.

**Criminal history.** Only seven women had recorded instances of criminal behavior prior to radicalization. Of these, five were for drug-related offenses, one for fraud charges, and one for a violent offense. The number of women with criminal offenses after radicalization remained relatively low, representing less than

one in 10 women. Only one woman had a record of criminal behavior both prior to and after radicalization. Criminal behavior after radicalization, when present, was most commonly related to fraud ( $n = 26$ , 74.3%), with smaller numbers of weapons smuggling ( $n = 4$ , 11.4%), drug crimes ( $n = 3$ , 8.6%), assault/murder ( $n = 1$ , 2.9%), and unknown offenses ( $n = 1$ , 2.9%).

**Terrorism involvement and activities.** Women were an average of 22.52 years old ( $SD = 8.15$ , range 13–55) at the time of radicalization. Age at first law enforcement contact related to terrorism ranged from 13 to 63 years old ( $M = 27.55$ ,  $SD = 10.44$ ). About one third of women had no known links to any terrorist organizations and about half of women were linked to only one organization. Very few women—about one in 10—were linked to two terrorist organizations, and rarely were women linked to three or four organizations (see Table 2). About one third of the women in the sample were linked to the Islamic State group; just under half of these women were members and a slightly smaller percentage were supporters. Al-Shabaab was a distant second, with less than 5% of the women. Ten of the women affiliated with Al-Shabaab were members and five were financial/logistical supporters. Among women who were linked to a terrorist organization, slightly over half were members of their respective organizations.

Over two thirds of women did not have any known links to terrorist plots (see Table 2). Among the one third who were involved in terrorist plots, the vast majority were linked to only one plot. Similarly, an overwhelming majority of women—more than 90%—did not participate in a martyrdom or suicide operation; a very small number (less than 2%) had planned or completed one.

**Foreign fighting.** Just under half of women in the sample had at least one foreign fighting attempt (see Table 2); only 11 women had two or more foreign fighting attempts. Women attempting foreign fighting were an average of 23.11 years old ( $SD = 8.44$ , range = 13–60) at the time of their first attempt. Three quarters of first foreign fighting attempts by women were successful. About one in five of women's foreign fight attempts were prevented in the West and very few—less than one in 10—were prevented in other geographic regions (see Table 2).

**Table 2**  
*Characteristics and Outcomes of Women Involved in Jihadism-Inspired Terrorism*

Variables	Women (n = 405) n (%)
Demographic characteristics	
Year of birth	
Prior to 1974	64 (15.8%)
1974–1982	69 (17.0%)
1983–1990	70 (17.3%)
After 1990	137 (33.8%)
Missing	65 (16.0%)
Ethnicity	
White European	95 (23.5%)
Moroccan	37 (9.1%)
Somali	28 (6.9%)
Pakistani	25 (6.2%)
Other ethnicities	279 (31.1%)
Missing	94 (23.2%)
Citizenship	
United Kingdom	80 (19.8%)
France	54 (13.3%)
United States	47 (11.6%)
Belgium	32 (7.9%)
Germany	27 (6.7%)
Other citizenships	131 (32.3%)
Missing	34 (8.4%)
Legality of residence	
Legal	290 (71.6%)
Undocumented	2 (0.5%)
Unknown	113 (27.9%)
Native resident	
Native	285 (70.4%)
Immigrant	59 (14.6%)
Unknown	61 (15.1%)
Highest level of education	
Less than high school	17 (4.2%)
High school	56 (13.8%)
Technical school	2 (0.5%)
College	46 (11.4%)
Postgraduate	6 (1.5%)
Missing	278 (68.6%)
Profession	
Caring service sector	11 (2.7%)
IT professional	1 (0.2%)
Medical professional	6 (1.5%)
Military	2 (0.5%)
Self-employed	5 (1.2%)
Service/manual worker	18 (4.4%)
Other profession	11 (2.7%)
No recent profession	43 (10.6%)
Missing	308 (76.0%)
Conversion to Islam	
No	253 (62.5%)
Yes	125 (30.9%)
Missing	27 (6.7%)

Variables	Women (n = 405) n (%)
Criminal History	
Criminal behavior prior to radicalization	
No	398 (98.3%)
Yes	7 (1.7%)
Criminal behavior after radicalization	
No	376 (92.8%)
Yes	29 (7.2%)
Terrorism Involvement and Activities	
Links to terrorist organization(s)	
0	148 (36.5%)
1	204 (50.4%)
2	45 (11.1%)
3	5 (1.2%)
4	3 (0.7%)
Terrorist organization	
Islamic State group	143 (35.3%)
Al-Shabaab	15 (3.7%)
Role within organization	
Member	140 (34.6%)
Supporter	72 (17.8%)
Associate	16 (4.0%)
Financial/logistical supporter	10 (2.5%)
Other role	19 (4.7%)
Missing	148 (36.5%)
Links to terrorist plot(s)	
0	266 (65.7%)
1	120 (29.6%)
2 or more	19 (4.7%)
Martyrdom/suicide operation	
None	380 (93.8%)
Planned	6 (1.5%)
Completed	4 (1.0%)
Missing	15 (3.7%)
Foreign fighting	
Foreign fighting attempt(s)	
0	204 (50.4%)
1	190 (46.9%)
2 or more	11 (2.6%)
Outcome of first attempt	
Successful	144 (75.8%)
Prevented in West	35 (18.4%)
Prevented in other geographic regions	11 (5.8%)

### Comparisons to Men Involved in Jihadism-Inspired Terrorism

Tables 3 and 4 present the descriptive statistics and comparisons between women and men with respect to their demographic characteristics, criminal history, and terrorism involvement. In the sections that follow, we summarize results of these comparisons.

Table 3  
*Comparison of Women and Men Involved in Jihadism-Inspired Terrorism Across Categorical Variables*

Categorical variables	Women ( <i>n</i> = 272)	Men ( <i>n</i> = 266)	Comparison	
	<i>n</i> (%)	<i>n</i> (%)	$\chi^2$	<i>p</i>
Demographic characteristics				
Year of birth			27.73	<.001
Prior to 1974	64 (23.5%)	70 (26.3%)		
1974–1982	60 (22.1%)	77 (28.9%)		
1983–1990*	55 (20.2%)	79 (29.7%)		
After 1990*	93 (34.2%)	40 (15.0%)		
Highest level of education				.054
Less than high school	14 (4.7%)	9 (8.5%)		
High school	41 (31.1%)	33 (43.2%)		
Technical school	2 (2.1%)	7 (6.6%)		
College	32 (33.7%)	42 (39.6%)		
Postgraduate	6 (6.3%)	15 (14.2%)		
Profession				<.001
Unskilled labor	26 (31.0%)	38 (32.5%)		
Skilled labor	7 (8.3%)	18 (15.4%)		
Military and police/security*	2 (2.4%)	12 (10.3%)		
Other	14 (16.7%)	33 (28.2%)		
No recent profession*	35 (41.7%)	16 (13.7%)		
Conversion to Islam	95 (35.1%)	89 (33.8%)	.09	.785
Criminal history				
Any criminal behavior prior to radicalization	6 (2.2%)	51 (19.2%)		<.001
Any criminal behavior after radicalization	25 (9.2%)	28 (10.5%)		.665
Terrorism involvement				
Any terrorist organizations	181 (66.5%)	148 (55.6%)		.009
Any terrorist plots	105 (38.6%)	248 (93.2%)		<.001
Foreign fighting				
Any foreign fighting attempts	125 (46.0%)	75 (28.2%)		<.001
Successful foreign fighting attempts <sup>1</sup>	96 (76.8%)	67 (41.1%)		.027

*Note.* Discrepancies between cell *ns* and total *ns* reflect missing data. % = valid percent calculated within gender. *p* values are for chi-square analyses, except when cell sizes *n* < 5 for which Fisher's exact tests were used instead.

\* Indicates the specific categories within which Bonferonni-corrected posthoc comparisons showed that women and men differed significantly.

<sup>1</sup> Among those who engaged in any foreign fighting attempts.

**Demographic characteristics.** When known, there was no difference between women and men in terms of their age of radicalization ( $p = .111$ ): mean age of radicalization was 23.33 ( $SD = 8.63$ , range 14–55) for women ( $n = 82$ ) and 24.57 ( $SD = 7.36$ , range = 16–55) for men ( $n = 65$ ). In contrast, there were differences in year of birth ( $p < .001$ ). Post hoc comparisons showed that a higher proportion of men were born between 1983 and 1990, whereas as a higher proportion of women were born after 1990 (see Table 3). Education did not differ significantly by gender ( $p = .054$ ), but there was a difference in most recent pro-

fession ( $p < .001$ , two-tailed Fisher's exact test). Post hoc comparisons showed that women were significantly more likely than men to have no recent profession, while men were more likely to be involved in military and police/security careers (see Table 3). The proportion of women and men who converted to Islam did not differ significantly ( $p = .785$ ): about one third of both women and men in the matched sample had converted to Islam.

**Criminal behavior.** Men were significantly more likely than women to be involved in any criminal behavior prior to radicalization ( $p < .001$ , see Table 3), and accordingly had a

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Table 4  
*Comparison of Women and Men Involved in Jihadism-Inspired Terrorism Across Continuous and Count Variables*

Variables	Women				Men				Comparison		
	<i>M (SD)</i>	Median	Mode	Range	<i>M (SD)</i>	Median	Mode	Range	<i>t</i>	<i>df</i>	<i>p</i>
Continuous variables											
Terrorist involvement	23.33 (8.63)	20	20	14–55	24.57 (4.36)	22	21	16–55	.923	(145)	.358
Age of radicalization											
Foreign fighting	24.01 (8.95)	21	19	14–60	25.69 (6.46)	24	21	16–47	1.526	(185.191)	.129
Age of first foreign fighting attempt											
Count variables	<i>M (SD)</i>	Median	Mode	Range	<i>M (SD)</i>	Median	Mode	Range	IRR	95% CI	<i>p</i>
Criminal history											
Crimes prior to radicalization	0.03 (0.18)	0.00	0.00	0–2	0.26 (0.62)	0.00	0.00	0–5	0.101	[0.046, 0.219]	<.001
Crimes after radicalization	0.11 (0.38)	0.00	0.00	0–2	0.11 (0.35)	0.00	0.00	0–3	1.011	[0.612, 1.669]	.967
Terrorist involvement											
Terrorist organizations	0.82 (0.74)	1.00	1.00	0–4	0.94 (1.18)	1.00	0.00	0–6	0.880	[0.734, 1.054]	.164
Terrorist plots	0.46 (0.69)	0.00	0.00	0–5	1.23 (1.04)	1.00	1.00	0–13	0.371	[0.302, 0.456]	<.001
Foreign fighting											
Foreign fighting attempts	0.49 (0.55)	0.00	0.00	0–2	0.38 (0.69)	0.00	0.00	0–4	1.278	[0.986, 1.656]	.063
Successful foreign fighting attempts <sup>1</sup>	0.78 (0.45)	1.00	1.00	0–2	1.16 (0.75)	1.00	1.00	0–4	0.676	[0.506, 0.902]	.008

*Note.* For count variables, IRR is the incidence rate ratio for women compared to men and 95% CI is the 95% confidence interval for the incidence rate ratio.

<sup>1</sup> Among those who engaged in any foreign fighting attempts.

greater number of crimes prior to radicalization than did women ( $p < .001$ , see Table 4). That said, the vast majority of men ( $n = 215$ , 80.8%) and women ( $n = 266$ , 97.8%) were not involved in any criminal behavior prior to radicalization. Of those men who did have a noted criminal history, most had one crime ( $n = 39$ , 76.5%) and just 12 men (21.6%) had two or more crimes. Only six women (2.2%) had a noted criminal history prior to radicalization, five of whom had only one crime listed. These five women were all involved in drug-related crime; the woman with two charges was also involved in fraud. Among men involved in crime prior to radicalization, theft was most common ( $n = 17$ , 33.3%), followed by drug-related crime, assault/murder, and unspecified crime, with 13 men (25.5%) involved in each. Involvement in crime after radicalization also was rare; only 28 men (10.5%) were known to be involved in postradicalization criminal behavior, 27 (96.4%) of whom were involved in only one crime. Similarly, only 25 women (9.2%) had noted instances of criminal behavior after radicalization, of whom 19 (76.0%) had only one crime. There were no significant differences between women and men in terms of criminal behavior after radicalization, either overall ( $p = .655$ ) or the number of crimes ( $p = .967$ ).

**Terrorism outcomes.** While women were more likely than men to be affiliated with a terrorist organization ( $p = .009$ , see Table 3), women and men did not differ significantly in the number of terrorist organizations with which they associated ( $p = .164$ , see Table 4). Specifically, just over half of women ( $n = 147$ , 54.0%) were linked to one organization, with fewer women linked to two ( $n = 28$ , 10.3%), three ( $n = 3$ , 1.1%), and four ( $n = 3$ , 1.1%) organizations. In contrast, only about one third of the men in the sample were affiliated with one organization ( $n = 89$ , 33.5%), with similar rates of affiliation with two ( $n = 37$ , 13.9%), three ( $n = 12$ , 4.5%), and four or more organizations ( $n = 10$ , 3.8%).<sup>5</sup> We found differences in the specific organization with which women and men affiliated ( $p < .001$ , two-tailed Fisher's exact test). Post hoc comparisons revealed more than half of women ( $n = 98$ , 54.1%) were affiliated with the Islamic State group, in contrast to just over one quarter of men ( $n = 39$ , 26.4%). With Al-Qaeda and affiliated groups, the opposite pattern was observed: more than

twice the proportion of men affiliated with Al-Qaeda ( $n = 20$ , 13.5%) as compared to women ( $n = 9$ , 5.0%). The percentage of women and men affiliated with Al-Shabaab was comparable ( $n = 10$ , 5.5% of women vs.  $n = 8$ , 5.4% of men).

Roles within terrorist organizations also differed significantly between women and men ( $p = .008$ , two-tailed Fisher's exact test). Post hoc comparisons revealed a significant difference in the proportion of women and men who were linked as visitors of their respective organization (0% of women vs. 2.7% of men). Men were most often members ( $n = 94$ , 63.5%), with a smaller percentage affiliated as supporters ( $n = 27$ , 18.2%) and associates ( $n = 11$ , 7.4%). Just over half of the women with links to terrorist organizations were actually members of the organization ( $n = 99$ , 54.7%). About one quarter of women were supporters ( $n = 46$ , 25.4%); fewer were associates ( $n = 13$ , 7.2%). No men in our matched sample were recruiters for a terrorist organization. Only one woman in our matched sample was identified as a leader of an organization; she was affiliated with the Islamic State group.

Women were less likely than men to be involved in a terrorist plot ( $p < .001$ ). Indeed, the vast majority of men were linked to at least one plot compared to just over one third of women (see Table 3). Among women and men involved in at least one plot, the types of plots also differed,  $\chi^2(3, 353) = 24.77, p < .001, \phi = .27$ . Post hoc comparisons showed significant differences in their involvement in violent plots and fundraising plots, in particular. To demonstrate, of those involved in at least one terrorist plot, over three quarters of men ( $n = 189$ , 76.2%) but just over half of women ( $n = 55$ , 52.4%) were involved in plots intended to inflict death or harm to others. In contrast, women were more likely than men to be involved in plots intended to help supply a terrorist or terrorist organization with money or supplies through nonviolent means: 34.3% ( $n = 36$ ) versus 12.5% ( $n = 31$ ), respectively.

<sup>5</sup> Since affiliation with a known terrorist organization is one of the possible inclusion criteria, this finding suggests that over half of the men in the sample were included based on one of the other inclusion criteria.



**Foreign fighting.** Women were more likely than men to have engaged in any foreign fighting ( $p < .001$ ,  $\phi = .184$ , see Table 3), although the number of foreign fighting attempts did not differ significantly ( $p = .063$ , see Table 4). Additionally, among women and men who engaged in foreign fighting, mean age at first attempt did not differ significantly,  $p = .163$ . On average, women were 24.01 years old ( $SD = 8.95$ ) at their first attempt and men were 25.69 years old ( $SD = 6.46$ ). Among women and men who attempted foreign fighting, women were more likely than men to be successful ( $p = .027$ , see Table 3). Yet, overall, women had fewer successful foreign fighting attempts than men ( $p = .008$ , see Table 4). Lastly, location of foreign fighting also differed significantly between women and men ( $p < .001$ , two-tailed Fisher's exact test). In particular, post hoc comparisons showed that the vast majority of women engaged in foreign fighting ( $n = 110$ , 88.0%), in contrast with about one third of men ( $n = 28$ , 37.3%), were solely engaged in foreign fighting in Syria–Iraq, reflecting conflict during years 2011 to the present. Almost one third of men ( $n = 24$ , 32.0%) engaged in foreign fighting solely in Afghanistan compared to just five women (4.0%). Attempts to travel to Somalia for foreign fighting were uncommon, but were more common among men ( $n = 7$ , 9.3%) than women ( $n = 3$ , 2.4%). Only two women (1.6%) engaged in foreign fighting in multiple countries compared to about one in five men ( $n = 15$ , 5.6%).

## Discussion

This study contributes to the emerging body of work examining the characteristics and outcomes of women involved in terrorism—and jihadism-inspired terrorism, specifically—by examining their demographic characteristics, criminal history, and involvement in terrorist organizations, plots, and foreign fighting. In doing so, we extend prior work by examining a broader range of individual characteristics (e.g., criminal history) and outcomes (e.g., participation in terrorist plots, foreign fighting) among a large sample of women involved in jihadism-inspired terrorism, beyond simply describing their demographic characteristics. We also compared the characteristics of women and men involved in jihadism-inspired terrorism across

these characteristics and outcomes. Our study represents an improvement upon prior efforts due to our use of a statistically rigorous approach—namely, case control matching—to create roughly equivalent and sufficiently large groups of women and men to afford meaningful comparisons. Overall, findings revealed some similarities but also notable differences between women and men, which adds to mounting empirical evidence showing heterogeneity in the characteristics of terrorists, as well as in their pathways to terrorism (Desmarais et al., 2017; Monahan, 2012). Findings also provide empirical support for gender-informed theories of radicalization and models of threat assessment. In the sections that follow, we highlight some of our findings and discuss their implications in more detail.

## Summary of Findings

Findings revealed notable similarities and differences in the demographic characteristics of women and men involved in terrorism and also underscore some emerging trends regarding the prevalence and role of women in jihadism-inspired terrorism. For example, we did not find significant differences between women and men in terms of their age of radicalization, but there were differences in their years of birth. In particular, a greater proportion of women than men involved in terrorism were born in 1990 or later. Thus, the conflicts and groups with which women are involved may be newer, suggesting that women's methods of participation in terrorism may differ from those of their male counterparts to fit with the needs of conflicts taking place in the near-present day. The implications of these findings are twofold. First, for both women and men, emerging adulthood or young adulthood (defined as 18–28 years old) appears to be a critical period of study and prevention of radicalization (Arnett, 2007; Klausen, Morrill, & Libretti, 2016; Schwartz, 2005). Indeed, average age of radicalization for women and men in our sample was between 23 and 25 years old, squarely within this range. Second, the differences in birth cohorts between women and men in our matched sample suggest that women's participation in jihadism-inspired terrorism is a relatively newer phenomenon and, as discussed elsewhere (Bloom, 2011; Cunningham, 2003; Jacques & Taylor, 2009), that we may anticipate

continued increases in their involvement over time.

We found that the majority of women and men in our sample had at least a high school level of education, with many going on to college. In this way, our findings provide further evidence against the assumption that terrorists—whether female or male—are poorly educated (Desmarais et al., 2017). However, we did see gender differences in professions: a greater proportion of women (almost half) than men involved in terrorism had no recent profession while a greater proportion of men than women were employed in military and police or security-related careers. Together, these findings suggest potentially different pathways, as well as opportunities for intervention, among women and men involved in jihadism-inspired terrorism. For instance, counterterrorism strategies targeting military, police, or security personnel may be less effective in preventing radicalization of women compared to men. We did not find significant differences between women and men in terms of the frequency or prevalence of conversion to Islam. Moreover, conversion to Islam was relatively uncommon among both women and men in our samples: only about one third were identified as having converted to Islam, suggesting that conversion is likely not a distinguishing factor among those who engaged in jihadism-related terrorist action. So, despite the prominence of conversion to Islam in counterterrorism policy and practice, our findings add to the mixed empirical evidence on the role of conversion to Islam as a risk factor for terrorism (Desmarais et al., 2017); further research is needed.

While there is considerable emphasis in counterterrorism efforts on the importance of contact with the criminal justice system, there is some debate in the field regarding the connection between prior criminal behavior and terrorism involvement (Monahan, 2012). The prevalence of prison radicalization is similarly disputed in the academic literature, and yet, concerns over the spread of jihadism within prisons have led to recommended practices for the management of terrorist detainees (Hamm, 2009, 2013). In contrast with the broader terrorism literature (Desmarais et al., 2017), but in line with previous research on women involved in terrorism (Jacques & Taylor, 2013), criminal activity unrelated to terrorism was extremely

rare among women in our sample, challenging prior criminal justice involvement as a common step in the pathway to terrorism. This point may be relevant for the development of gender-informed counterterrorism practices and policies. Specifically, the low rates of criminal justice contact among women in our sample suggest that the criminal justice system may not be a viable intervention point for targeting women at risk of radicalization. Instead, our results suggest that interventions targeting women who are not currently or recently employed, such as through publicly funded social service programs, may represent a more effective counterterrorism approach vis-à-vis women involved in terrorism than would be prison deradicalization programs.

In terms of membership in terrorist organizations, we found that even though women were significantly more likely to affiliate with a terrorist organization than were men in our sample, the number of organizational affiliations did not vary based on gender. The median number of organizational affiliations for both women and men was one, which, when combined with the previous finding, suggests that women are less likely to be terrorists without affiliating with a specific organization. Membership across multiple terrorist organizations has been under-researched as an outcome variable, with most studies looking only at membership in a particular organization. As such, our findings are a first contribution to the field regarding the number of memberships in terrorist organizations. We also found significant differences in the primary organizations with which women and men affiliated: women more often affiliated with the Islamic State group while men more often affiliated with Al-Qaeda. In line with most previous research (Jacques & Taylor, 2009), results also showed women were more frequently engaged in supportive roles and actions that indirectly facilitated terrorist organizations' broader goals, while men were more frequently active members of terrorist organizations who engaged in violent plots. Taken together, these findings suggest that affiliation with terrorist organizations may not be static and may differ in meaningful ways for women and men. As such, research, policy, and practice should consider diverse roles within and moves between organizations in addition to primary organizational affiliation. Moreover, counterterrorism

strategies targeting women at risk of involvement in jihadism-inspired terrorism should be developed with attention to the current messaging around acceptance, recruitment, and roles of women across terrorist organizations.

Regarding perpetration of terrorist acts, women were involved in fewer terrorist plots, on average, than men. This finding builds upon what has been found in previous studies, which show only that women tend to be involved in supportive roles rather than as active combatants in terrorist plots (Jacques & Taylor, 2009). Specifically, our variable measuring involvement in terrorist plots captures both known supportive activities and actual perpetration of the terrorist plot allowing us to distinguish between the two within the same individuals, whereas prior work using samples comprising both women and men often fails to distinguish between type of activity or role within the organization. Additionally, within our dataset, terrorist plots are not constrained to those in which violent action takes place, but also includes activities such as recruitment, financial support, logistic organizing, and spreading jihadism propaganda. In this way, we are able to show that women are less often involved in all types of terrorist plots and not that they are merely engaging in different types of activity.

Finally, our comparisons between women and men involved in jihadism-inspired terrorism with respect to foreign fighting revealed that a greater number of women engaged in at least one foreign fighting attempt and they were also more likely to be successful in a foreign fighting attempt (defined as reaching the desired area and engaging with a terrorist organization); however, there was no difference in the average number of attempts between women and men. Together, these findings suggest that women engaged in a lower average number of attempts perhaps because they were more often successful on their first attempt. The higher rate of successful first attempts by women suggests that (a) current counterterrorism efforts may be more effective at preventing foreign fighting by men, perhaps attributable to different methods of entry into foreign fighting among women and men, for example; and/or (b) there is insufficient focus on risk for foreign fighting by women, more generally. Once again, we present the first results of statistical comparisons of foreign fighting among women and men in-

involved in terrorism. Thus, while our study is the first to contribute to the knowledge base in this way, findings need to be replicated in future research.

### Limitations and Future Research

Conclusions based on our findings must be considered in the context of several limitations that may affect validity and generalizability. First, although methodological strengths include our large sample size and use of state-of-the-art statistical techniques to develop a matched sample of women and men involved in terrorism, the dataset is limited to individuals affiliated with jihadism-inspired organizations, people, and actions. Therefore, our findings may not generalize beyond terrorists who express jihadism ideologies or who come from jihadism-inspired terrorist organizations. Further, the sample is comprised of jihadism-affiliated individuals who also spent formative years in the West (defined in this study as the United States, Canada, Western Europe, the United Kingdom, Australia, and New Zealand) and those for whom there was sufficient information to statistically match women and men on key characteristics. For these reasons, we do not assert that all male and female terrorists are similar or different in the ways found in our study, but rather some differences by gender exist within a sample of individuals affiliated with jihadism ideologies who grew up in Western nations. The differences between women and men we found in this study should be considered in the context of other research on terrorism across ideologies and geographic locations. Future research should continue testing for differences in groups of terrorists, be it by gender, culture, ideology, or other defining characteristics.

A second limitation of our work is the reliance on publicly accessible information. Our findings are limited to what is known and reported on by the media and the extent to which court documents and other records are available to the public. The accuracy of media reports may vary as the stories selected for reporting are subject to the bias of reporters, editors, and a host of others in the newsroom and beyond. Accessibility of court documents and other public records is also variable and may differ country-by-country based upon privacy laws. Fur-

ther, information on key variables is unknown for a portion of the sample. Yet, the use of public information to develop data sets is not uncommon in terrorism and other fields in which researchers may face barriers to accessing participants directly (see e.g., Dalton & Asal, 2011; Jacques & Taylor, 2013). Despite its limitations, the use of publicly accessible information affords the development of samples sufficiently large for statistical analyses that can be used to empirically test and validate theories and models of radicalization (Desmarais et al., 2017; Jacques & Taylor, 2009).

Third, we describe characteristics of women and men involved in jihadism-inspired terrorism, but cannot specify risk factors for jihadism-inspired terrorism per se. While our use of case control matching and inferential statistics are advances over most prior research in this area (Desmarais et al., 2017; Jacques & Taylor, 2009; Monahan, 2012), these methods do not afford the level of evidence necessary to establish any of the examined variables as risk factors for jihadism-inspired terrorism. Specifically, we cannot establish with certainty that these factors precede terrorist involvement nor that they distinguish terrorist actors from individuals who are not involved in terrorism—key criteria of risk factors (Kraemer et al., 1997). As such, our results simply show differences and similarities between women and men in likely correlates of later terrorist involvement, whether it be membership in a terrorist group, participation in a terrorist plot, or attempted foreign fighting. Further research is needed using matched samples of non-terrorism-involved women to develop predictive models of women's participation in terrorist activity. Another important direction for future research would be to test validity of existing threat assessment frameworks, such as the Terrorist Radicalization Assessment Protocol-18 (TRAP-18; Meloy & Gill, 2016) or the Violent Extremist Risk Assessment-2 (VERA-2; Pressman & Flockton, 2014) among women involved in terrorism.

## Conclusion

This research describes the characteristics and outcomes of a large sample of women involved in jihadism-inspired terrorism overall and in comparison to a matched sample of men. Our work moves beyond a unique focus on

individual characteristics to consider terrorism outcomes. Results showed that women and men differ significantly on several aspects of their involvement in terrorism, including their roles in organizations, the number of plots in which they are involved, and their attempts at foreign fighting. Strong, evidence-informed counterterrorism practice requires consideration of heterogeneity across actors and contexts (Smith, 2018), including differences that may exist in the characteristics of terrorism-involved women and men. Our findings suggest the need for different tactical considerations in counterterrorism practice to prevent radicalization among and mitigate the threats posed by women and men. They also emphasize the importance of including women in studies of radicalization and terrorism, as the generalizability of findings reported herein regarding women and men involved in terrorism is unclear. Indeed, the prevalence and characteristics of women involved in terrorism will undoubtedly grow and change as the nature of terrorist organizations and socio-political contexts change over time. Nonetheless, our findings advance the current state of the science on women involved in jihadism-inspired terrorism.

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