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## Social Network Analysis of German Foreign Fighters in Syria and Iraq

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### ABSTRACT

Why do Westerners become foreign fighters in civil conflicts? We explore this question through original data collection on German foreign fighters in Syria and Iraq, and test three sets of hypotheses that revolve around socioeconomic integration, online radicalization, and social network mobilization. We conduct link analysis to map the network of German foreign fighters prior to their mobilization, and marshal evidence to assess the validity of competing explanations. We find only modest support for the integration deficit hypothesis, and meager support for the social media radicalization theory. Instead, the preponderance of evidence suggests that interpersonal ties largely drive the German foreign fighter phenomenon. Recruitment featured clustered mobilization and bloc recruitment within interconnected radical milieus, leading us to conclude that peer-to-peer networks are the most important mobilization factor for German foreign fighters.

### KEYWORDS

European Muslims; foreign fighters; radicalization; social network analysis

In January 2014, the Islamic State in Iraq and Syria (ISIS) boasted on its social media that 26-year-old Robert Baum, also known as Uthman al-Almani, had blown himself up in the Syrian village of al-Kafat, allegedly killing “50 unbelievers” in the process.<sup>1</sup> When the news reached Baum’s hometown of Solingen—a midsize city on the edge of Germany’s industrial heartland—it prompted a series of now familiar questions: Why did this “shy, introverted boy” end his own life murdering strangers in a faraway land? How did this young German, a convert to Islam, radicalize? Why are an increasing number of Germans aspiring to emulate Baum’s path to murderous self-destruction?

Germany is not the only European nation engaging in this type of soul searching. Western fighters have flocked to the Syrian and Iraqi war zones on an unprecedented scale. The best international estimate holds that approximately 5,000 Western Europeans have joined the fray since 2011.<sup>2</sup> In total, about 30,000 men and women from at least 86 countries have traveled to these conflicts, making the contingent of Western combatants among the largest at nearly 17%. ISIS has claimed the majority of these volunteers.<sup>3</sup>

There is a burgeoning scholarly literature on the foreign fighters phenomenon, but little consensus as to its main causal drivers. Most studies hone in on foreign fighters’ biographies and demographic data as they describe those who have been recruited or

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volunteered in Syria and Iraq,<sup>4</sup> Afghanistan and Pakistan,<sup>5</sup> Chechnya,<sup>6</sup> and Somalia.<sup>7</sup> Few have theorized the underlying motivations that drive young men and women to join distant conflicts by examining the *pull factors*, which is to say the recruitment messages that militant organizations rely on to lure foreign combatants to their cause.<sup>8</sup> Others consider the *push factors*, what Thomas Hegghammer calls the “underlying determinants of supply.”<sup>9</sup>

This study maintains that social network analysis could bridge these two perspectives. It contends that pull factors such as visceral appeals to aid suffering Muslims are undoubtedly central to foreign fighter mobilization, but such appeals do not create geographically diffused mobilization patterns within a national territory. Instead, their effect is limited to local, peer-to-peer social networks as evinced by clustered mobilization and small-group recruitment from within preexisting radical milieus. This suggests that local networks are a critical push factor, much more significant than the often cited drivers of foreign fighter recruitment, including failed integration and social media radicalization.

Original data from German foreign fighters in Syria and Iraq allows us to evaluate three sets of hypotheses concerning foreign fighter mobilization: *integration deficit*, *online radicalization*, and *social network mobilization*. This data provides strong support for the social network hypotheses and some support for the integration deficit one, but there is meager support for the online radicalization theory. This finding constitutes a bit of “good news” for concerned European publics because identifying, monitoring, and dismantling peer-to-peer networks is perhaps a less daunting challenge for governments and their security agencies than devising social integration policies in the context of mass migration and a refugee crisis, or countering radicalization within the ubiquitous and rapidly evolving social media sphere.

We proceed as follows. First, we review the key literature surrounding foreign fighter recruitment and generate testable implications for the German case study. Next, we preview our research design and empirical strategy, explaining our original dataset and other German-language security reports that inform our theory testing. We then proceed to analyze the German data and draw inferences regarding the integration deficit, online radicalization, and social network hypotheses. We conclude by summarizing our empirical findings and highlighting the strong support for the social network approach. We also suggest three possible research extensions that emerge out of our study.

## Explanations of foreign fighter recruitment

Following David Malet, we define foreign fighters as “noncitizens of conflict states who join insurgencies during civil conflicts.”<sup>10</sup> In recent history, these volunteers often engage in direct combat roles and even end up as suicide bombers.<sup>11</sup> However, not all of the individuals that travel to conflict zones actually engage in combat; some undertake support roles within insurgent organizations. In this study, we treat such individuals as foreign combatants because we do not always know with certainty what their roles are once they join a conflict zone, or how their roles might evolve over time. It is possible that noncombatant volunteers could be activated as fighters at a future date, especially when confronted with a major counterinsurgent force. Moreover, their organizational support for combatants is usually beneficial to an insurgent movement, making them potential targets for counterinsurgent forces as if they were combatants.

Malet's comprehensive historical treatment of the foreign fighter phenomenon maintains that recruitment is largely driven by a strong belief that one's transnational community is confronting an existential threat from a menacing adversary.<sup>12</sup> Combatants in local conflicts deliberately appeal to a shared "transnational identity" among coreligionists or compatriots abroad in order to internationalize their struggles and draw financial and material aid from prospective supporters.<sup>13</sup> Some recipients of those messages, sensing that one's primary identity group is under dire threat, take extraordinary risks to halt the menace confronting their fictive kin.<sup>14</sup> For example, many American and Canadian Jews volunteered to fight in the Spanish Civil War (1936–1939) because they saw the rise of General Francisco Franco as a precursor to spreading fascism around the globe. Fighting fascism in Spain was not viewed as a distant conflict, but rather as one that would eventually reach their homelands if left unchallenged.

In the case of Muslim foreign fighters, Islamist insurgents often portray their local conflicts as part and parcel of a "war on Islam" in which tyrannical regimes and foreign enemies threaten to subjugate Muslims, repress their movements, and prevent them from controlling their destiny. They call on Muslims all over the world to come to their aid, framing the fight abroad as a religiously mandated duty and an opportunity to uphold the ideal of Pan-Islamic unity.<sup>15</sup> As Hegghammer points out, most Western jihadists participate in foreign conflicts because they see fighting in Muslim lands as legitimate self-defense, not an act of aggression.<sup>16</sup> Two recent studies substantiate the claim that Muslim foreign fighters from Europe are motivated, in part, by a sense of duty toward suffering Muslims.<sup>17</sup>

Threat to transnational identity, however, is insufficient to explain who eventually heeds the clarion call to join a distant conflict. While the civil conflicts in Syria and Iraq have attracted foreign fighters from across the globe, a closer look at recruitment at the national level suggests that volunteerism is geographically clustered, not randomly diffused, which is indicative of a network effect.<sup>18</sup> Moreover, foreign fighters lack common socioeconomic or ethnic profiles that might offer clues as to their propensity to volunteer, which raises the question of how does a mobilizing transnational identity form when collective interests are not readily apparent?

A number of theories have attempted to provide some national level explanation of who is susceptible to foreign fighter recruitment. These revolve around societal alienation due to poor integration of Muslims in Europe, which compels some Muslims to look abroad for alternative sources of identity. Others stress growing concerns about online radicalization, which is presumed to be the new vector for imbuing a unifying militant identity among otherwise disparate individuals. We take these two arguments seriously, but offer an alternative explanation based on the role of peer-to-peer ideological networks. We explore each of these theories and generate testable implications for the German case study.

### ***Integration deficit***

The challenge of multicultural integration is often posited as the root cause of Muslim radicalization in Europe, which presumably contributes to the foreign fighter phenomenon.<sup>19</sup> Host society xenophobia and Islamophobia manifest in unemployment rates that are consistently higher than national averages, subpar educational opportunities,

and residential segregation into ethnically homogenous neighborhoods. Europeans with migrant backgrounds, be they first or second generation, are particularly vulnerable to socioeconomic marginalization because they are seen as undermining the economic well-being and cultural cohesiveness of their host societies.<sup>20</sup>

A strong sense of minority discrimination, in turn, has been empirically associated with greater levels of political violence. Piazza's statistical analysis of 172 countries between 1970 and 2006 found a link between minority groups' experience with economic discrimination and higher rates of domestic terrorism.<sup>21</sup> Victoroff et al. similarly found a link between a sense of discrimination and support for suicide bombings among Muslims residing in the West. Analyzing two sets of Pew survey data of a combined 2,677 adult Muslim residents in Europe and the United States, they concluded "that younger age and perceived discrimination toward Muslims living in the West are significantly associated with the attitude that suicide bombing is justified."<sup>22</sup>

While neither of these studies address foreign fighter recruitment directly, it is plausible to extend their analysis to volunteerism in support of transnational militancy. Indeed, two recent studies offer evidence that foreign fighters from the Netherlands, Belgium, and France tend to be among those on the margins of society, as evinced by high rates of unemployment or low wage employment, lower levels of education, and substantial criminality.<sup>23</sup> Extending the integration deficit theory to our German data, we would expect to find that:

*H<sub>1</sub>: German foreign fighters are disproportionately drawn from the ranks of Muslims with migrant backgrounds who have not integrated well into German society as indicated by low rates of citizenship, low educational qualifications, low rates of employment, and high rates of criminality among the volunteers.*

Many of these dimensions of integration—migration background, citizenship, criminality, employment, and education—are structural and identificational measures that have been used by others to gauge Muslim integration in Germany.<sup>24</sup> They allow us to assess how the German foreign fighters data compare with trends in the general Muslim population in Germany, as well as other communities with migrant backgrounds. If the features of German foreign fighters approximate the trends in those populations, then we can assume that the integration deficit hypothesis is unsubstantiated—the foreign fighters are not sufficiently unique from what a random sample would predict. If, on the other hand, German foreign fighters fare worse than those populations, then we can say that the integration deficit has support. As a caveat, our data on German foreign fighters ( $n = 99$ ) is not large enough to offer conclusive support or disconfirmation of the integration deficit hypothesis. The findings, therefore, must be treated as suggestive.

### **Online mobilization**

The social media revolution has heightened concerns about the nefarious use of web-based technologies for radicalization and foreign fighter recruitment.<sup>25</sup> Jihadists have indeed turned to a whole range of social media applications to reach recruits from across the globe.<sup>26</sup> Radicals use these technologies to transmit the message of threat to transnational identity, and exhibit vivid imagery of Muslim suffering in conflict zones. At a more basic

level, social media provides information on jihadi arenas and helpful advice on how to make a journey to distant conflicts.

The relational nature of social media apps such as Facebook, Twitter, WhatsApp, and Telegram “provide horizontal communication that is user-generated, interactive, instantaneous, highly personalized, and easily mobile. As such, they could assist in forging a sense of communal belonging that is likely to appeal to some alienated individuals.”<sup>27</sup> The implication of this analysis for German foreign fighters is as follows:

*H<sub>2a</sub>: Social media is a primary vector of foreign fighter radicalization and recruitment, resulting in fewer interpersonal connections among German volunteers prior to their mobilization.*

*H<sub>2b</sub>: Given the geographic diffusion of social media in Germany, we should observe geographically dispersed—not clustered—foreign fighter recruitment across Muslim populated German cities.*

Muslims in Germany reside largely within the old Federal states; more than 98% are spread across those 11 states and East Berlin as of 2008 data.<sup>28</sup> We expect the foreign fighters to come from those states in proportion to the size of their Muslim populations. Deviation from that expectation would cast doubt on the online mobilization theory. We collected the Muslim population data at the state level, and determined how many foreign fighters came from each state to assess the degree of geographical clustering at the state level. We also investigated if certain cities produced a disproportionate number of foreign fighters given the size of their migrant/foreign population. Disproportionate recruitment from certain cities would serve as evidence for clustering, not online radicalization.

### **Networked mobilization**

Social movement theory and social network analysis maintain that *preexisting ties* and *bloc recruitment* are important for militant mobilization.<sup>29</sup> Preexisting networks are fertile ground for mobilization because they bring together like-minded individuals, promote peer-pressure, and encourage groupthink.<sup>30</sup> Dense ideological networks may even offer their members social status as a reward for participation in radical causes.<sup>31</sup> If networks are a primary mobilizing force, then there should be evidence of geographic clustering and preexisting ties among foreign fighters that predates their mobilization to the combat area. Previous research on foreign fighters suggests this is the case. According to Holman, “Belgian and French foreign fighters might have represented a quarter of all European foreign fighters in Iraq. . . . Two foreign fighter networks, Kari and 19th, were responsible for the bulk of these individuals.”<sup>32</sup> Others highlight the critical role of jihad veterans to foreign fighter recruitment because they serve as hubs connecting local networks to transnational ones.<sup>33</sup> Thus, in the German case we should expect to find that:

*H<sub>3a</sub>: German foreign fighters are recruited primarily through preexisting social ties as evinced by geographic clustering of volunteers and their linkages to other volunteers in a single network prior to mobilization.*

A corollary to preexisting network ties is the phenomenon of bloc recruitment, which refers to how militant organizations “often recruit members and participants among groups of individuals already organized for some other purpose.”<sup>34</sup> For example, analysis of the Sinjar records (a trove of Al Qaeda in Iraq data captured by U.S. forces near Sinjar, Iraq in 2007) confirmed that nearly half of the 202 foreign fighters with a recorded arrival date entered Iraq on the same day as someone else from their hometown, which “strongly suggests that the individuals traveled together as a group.”<sup>35</sup> Preexisting social ties within a political or religious milieu make possible bloc recruitment because of high levels of interpersonal trust and mutual obligations.<sup>36</sup> Tight-knit relationships facilitate the transfer of beliefs due to at least two psychological needs: avoidance of cognitive dissonance and validation from valued peers.<sup>37</sup> Close associations may also entrap individuals through what della Porta calls affective focusing and cognitive closure.<sup>38</sup> That is, kinship and friendship ties can transpose radical political commitments, and these commitments, in turn, intensify bonds of loyalty among kith and kin. Thus, in the German case we should expect to find that:

*H<sub>3b</sub>: German foreign fighters were mobilized to Syria and Iraq in small groups connected through friendship and kinship ties, not as disparate individuals traveling on their own.*

We collected data on individual and group recruitment to be able to assess to what extent foreign fighters were recruited or traveled in small groups, and sought qualitative evidence for friendship and kinship ties among the foreign fighters prior to their mobilization.

## Research design and empirical strategy

We test these three sets of hypotheses using original data collection about German foreign fighters in Syria and Iraq. By the beginning of 2014, over 300 Germans had joined Syria’s civil war—eclipsing all previous German Islamist foreign fighter movements in less than 2 years. By 2015, that number more than doubled, reaching 680 foreign fighters in Syria and Iraq.

We compiled detailed dossiers on 99 German foreign fighters who have traveled (or attempted to travel) to Syria and Iraq between March 2012 and October 2015. The profiles are based entirely on unclassified, open source data mostly obtained from German news media reporting. For each of the 99 profiles, we collected the following data:

### Basic Information

- (1) Name
- (2) Age
- (3) Gender

### Measures of Integration Deficit

- (4) Citizenship and immigration status
- (5) Occupation and employment status
- (6) Educational qualifications
- (7) Criminal records prior to mobilization

### Measures of Social Ties: Traditional and Online

- (8) German city/state of residence prior to/during mobilization
- (9) Network connections to radical milieu prior to mobilization
- (10) Group or individual recruitment and travel to combat zones

The biographical data (age, immigration background, gender, etc.) is presented statistically, and the social network data (social ties prior to mobilization) is presented in the visual analytics program, Palantir. The latter allows enormous quantities of data to be analyzed visually in order to reveal social network connections among the German foreign fighters in Syria and Iraq.

To develop our dataset, we collected 143 foreign fighter profiles primarily from the national news magazine *Der Spiegel*, followed by *Die Welt*, *BILD*, Frankfurt's *Frankfurter Allgemeine Zeitung*, and Munich's *Süddeutsche Zeitung*. A variety of smaller local news sources and German television news websites also contributed valuable information. For three profiles, additional biographical information was found in the Islamic State's propaganda online magazine, *Dabiq*. This information concerned the friendship and familial relationships among three German foreign fighters Ibrahim B. (Abu Junaydah al Almani), Badr B. (Abu Hafs al Almani), and Fared Saal (Abu Luqman al Almani).<sup>39</sup> While propaganda should generally be treated with suspicion, there is no reason why the preexisting friendship between Fared Saal and Ibrahim B. and the familial relationship between Ibrahim and Badr B. should be a fabrication. Finally, two German-language weblogs were very helpful in assembling the profiles of the German foreign fighters. Both are considered credible sources by mainstream German media. The first is *Jih@d*, which is a side project of German journalist Florian Flade, who also writes on radical Islamism and foreign fighters for the national publication *Die Welt*.<sup>40</sup> The second blog consulted for this project was *Erasmus Monitor*, the author of which remains anonymous.<sup>41</sup>

The original list of 143 profiles was eventually reduced to 99 due to lack of sufficient information. Other names were removed because further research revealed that these had not actually traveled to Syria or Iraq, but merely provided material support to travelers. Four of the original 143 profiles were found to be duplicates caused by media reporting irregularities, such as swapped first and last names and listing of aliases instead of names. Profiles were kept in the database only when at least two independent sources could be found to agree that the profiled individual was a German resident prior to departure and that the person's apparent intended destination was Syria or Iraq. The two independent sources could be separate news articles, a weblog and a news report, or a news article and *Dabiq*.

Discarded profiles were not entirely abandoned, however; some were retained for use in the Palantir network analysis. Among the profiles that did not meet the criteria for inclusion in the primary foreign fighter dataset were individuals identified as recruiters, supporters, or enablers of foreign fighters. These individuals were added to a separate list for inclusion in the network analysis because determining interconnectedness of foreign fighters was a primary objective of this research. For the supporter and recruiter category, only network connection data was retained.

Indicators of integration into German society included migration background, citizenship, previous criminality, employment status, and educational qualifications. As with all



such studies, the profiles of the 99 German foreign fighters suffer from information gaps. One of the limitations of collecting open source data is that the information is not uniformly accessible for all variables. Since this research was designed to also examine the network integration of the foreign fighters, however, a larger sample set ( $n = 99$ ) was necessary. Therefore, profiles that had good network connection data but were otherwise short on biographic data were retained. Results presented in this analysis will, therefore, specify when smaller subsample sizes were used.

We supplemented our own original data collection with a publically released report by Germany's domestic intelligence service on residents who have traveled to Syria between 2011 and 2014.<sup>42</sup> The *Verfassungsschutz* report, which analyzes 378 German foreign fighters known to have departed for Syria by the end of June 2014, helps us fill some interpretive gaps and refine our own analysis when our data is too small for drawing valid inferences.

### Basic demographic data

Out of the 99 profiles, we have information on the ages of only 60 German foreign fighters. The average age is 26 years old at the time of departure. Figure 1 offers an age breakout showing that a substantial majority of subjects were between 19 and 30 years of age. The average age for women was 21 years old while the average age for men was 27. Interestingly, the 15–18 age bracket is disproportionately female: six women to two men, while the other age bins are male-dominated with a maximum of two women in each age grouping. This suggests a preference towards recruiting exceedingly young women.

In our data, 85 of the foreign fighters are male and 14 are female. With women now constituting more than one-in-ten German foreign fighters in the combat area, it seems clear that the traditional gender mix of jihadist foreign combatants has changed in recent years.<sup>43</sup> Current estimates hold that approximately 550 Western women have traveled to ISIS-held territory, but most do not participate in direct combat.<sup>44</sup> It is possible that having marriageable young women in a jihadist organization like ISIS may play a role in attracting male recruits. Ebrahim B., a 26-year-old German foreign fighter from the town of Wolfsburg who returned from Syria disillusioned in 2014, summarizes how carnal incentives were part of the jihadists' recruitment pitch. Ebrahim tells a 2015 television interview, "You would like to build a family and marry? In Germany or in Europe everything is expensive. There you can marry ... from an Islamic perspective, marry four women! Who wouldn't want to have four women, to be honest?"<sup>45</sup>

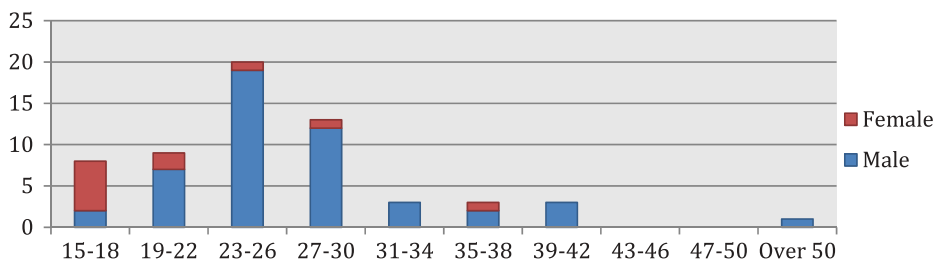


Figure 1. Age at time of travel.

## Integration in German society

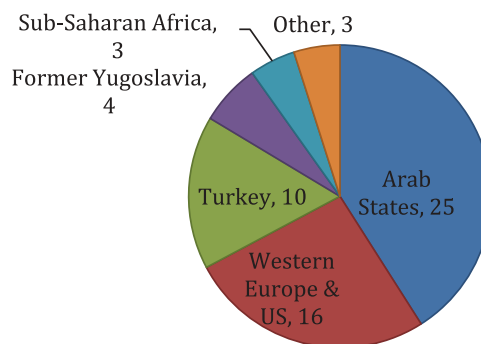
We collected data on the migration background, citizenship status, criminal history, and employment and education status of German foreign fighters to test the integration deficit hypothesis. We compare the features of foreign fighters with the larger Muslim population in Germany and other residents with migrant and non-migrant backgrounds in order to assess how divergent their features are from broader societal trends.

### *Ethnicity and migration background*

As of 2008, German society is estimated to have 3.8–4.3 million Muslims out of a total population of 82 million, which means Muslims constitute approximately 4–5% of the total population.<sup>46</sup> The vast majority have migrant backgrounds of Turkish origins (approximately 63%), followed by southeast Europeans (about 14%), Middle Easterners (about 8% excluding Iran and Turkey), North Africans (roughly 7%), and the rest from Central Asia, Iran, South and Southeast Asia, and sub-Saharan Africa (about 8% in total).<sup>47</sup> Estimates of converts to Islam are as high as 100,000, which is less than 1% of the Muslim population in Germany.<sup>48</sup>

Assuming that individuals with migrant backgrounds have a “substantially poorer situation”<sup>49</sup> in Germany than those without migrant backgrounds, it would be fair to predict that foreign fighters from Germany would be overwhelmingly individuals with migrant backgrounds. Of the 99 German foreign fighters we profiled, we have information on the national origins of 61. Of these, 13 were native Germans with both parents having German ancestry. That is a high number given that nearly all the Muslim population in Germany has a migrant background, even those with German citizenship. The remaining 48 had a migration background with at least one parent of non-German descent. Furthermore, 10 were specifically identified in press reports as first-generation immigrants to Germany and 12 were identified as second- or even third-generation immigrants. The national backgrounds of the 61 fighters for whom information was available are shown in Figure 2.

The origins of the remaining 38 foreign fighters can be inferred from their first names and conversion status. Four of the 38 are assessed to be native Germans because of their traditional German names and conversion to Islam. That puts the total percentage of



**Figure 2.** Migration background by region (n = 61).

volunteers with no migrant background at 17%. The remaining 34 individuals were likely to have some migration background because they have names like Amira, Fatih, Ismail, and Samir, which do not conclusively prove migrant heritage, but strongly suggest it.

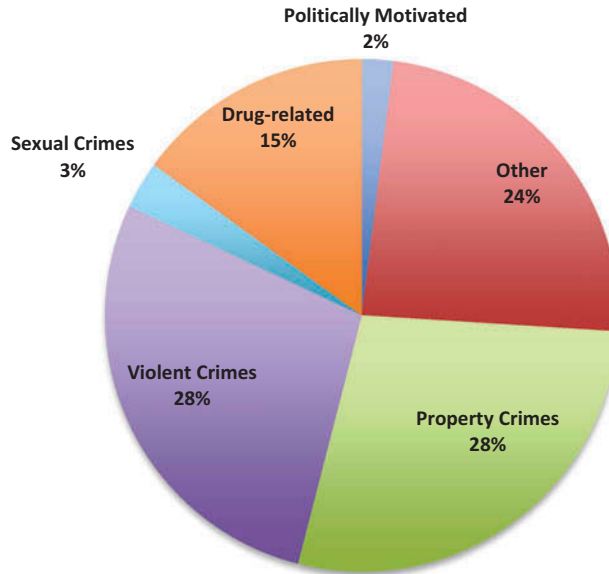
Converts to Islam are substantially overrepresented among foreign fighters. Of the 99 travelers, 23 were listed as converts to Islam, which is only slightly higher than reported in the *Verfassungsschutz* study (18%). Given that converts are estimated at less than 1% of the total Muslim population in Germany, these numbers are astonishingly high. As noted earlier, 13 of these 23 were native Germans with no traceable migrant background. They had names like David Gäble, Christian Emde, and Philip Bergner. Of the remaining ten converts, three came from decidedly Western backgrounds (U.S.-German, UK-German, and Italian-German). Two other converts had migration backgrounds from Ghana and one from Poland. Three others were identified as converts, but their ethnic and migration backgrounds could not be determined. The overrepresentation of German Muslims without a migrant background, which overlaps with high rates of converts among the foreign fighters, suggests that having a migration background was not a necessary condition for becoming a foreign fighter.

### **Citizenship**

A potential measure of integration is citizenship. Rabasa and Benard find that Germans with a migration background who have German citizenship do score better on other measures of integration including education and employment.<sup>50</sup> About 45% of Muslims in Germany have citizenship.<sup>51</sup> Yet according to the *Verfassungsschutz* study, 233 of the 378 travelers (nearly 62%) had German citizenship at the time of travel, which is 17% higher than would be predicted by random selection. Of the 233, 141 (37%) of the travelers had exclusively German citizenship; 92 (25%) had German and secondary (dual) citizenship. Among this group of 92 travelers with dual or multiple citizenships were the following: 18 German-Moroccans, 17 German-Turks, 12 German-Syrians, and ten each for German-Afghans and German-Tunisians. Finally, foreign citizenship numbers included 54 Turkish citizens (14%), 19 Syrian citizens (5%), and 13 with Russian citizenship (4%). Another 13% were listed as “other” and 2% as “unknown.” German citizenship, therefore, did not act as a countervailing factor in the recruitment of foreign fighters.

### **Criminal Backgrounds**

A proxy measure of integration in German society is criminality, which can be seen as both a symptom and a cause of poor integration in society. Disenfranchised people may have greater incentive to commit crimes, and having a criminal past often excludes people from greater levels of participation in society. Among the 99 German foreign fighters profiled, 16 had clearly discoverable criminal backgrounds (press reports implied connections to criminal milieus for several others, but these implications were too ambiguous to warrant inclusion in the foreign fighter profiles). At 16%, the number of foreign fighters with criminal backgrounds is high, but it is not certain how much higher than general societal trends. In 2013 data on public prosecutions of illegal acts by regional and local courts in Germany, nearly 5.3 million persons were prosecuted, which is a little more than 6% of the German population (assuming no repeat offenders, which is a doubtful



**Figure 3.** Pre-radicalization criminal records.

assumption).<sup>52</sup> The number of young male adults (18 years old or higher) suspected of crime is 1.37 million, which is 1.67% of the German population.<sup>53</sup> Without probing further, it would appear that the number of German foreign fighters with criminal backgrounds is substantially higher than would be predicted by general societal trends.

The *Verfassungsschutz* report—with its superior access to government records—shows an even higher rate of pre-mobilization criminality. The report found that 117 of the 378 travelers (about 31%) had criminal records with local, state, or federal police before radicalizing (see Figure 3).<sup>54</sup> Most common pre-radicalization offenses were violent crime, property crimes, and politically motivated crimes.<sup>55</sup> Thus, the data on criminality indicates that according to one measure of the integration deficit, a substantial number of German foreign fighters were on the margins of German society before joining the radical milieu.

### **Employment**

Disproportionately high unemployment rates among German Muslims might signal poor integration due to lack of educational skills, societal discrimination, or limited economic opportunities in the cities they inhabit. To assess the role of unemployment in the foreign fighter phenomenon, we look at the rate of unemployment among German foreign fighters in the *Verfassungsschutz* study and compare them to rates of unemployment among other Germans with and without migrant backgrounds.

The *Verfassungsschutz* study reports that out of the 378 German foreign fighters, 82 (21%) were unemployed. This figure is substantially higher than unemployment trends in German society at large and in comparison to migrant unemployment rates. According to data from the Organization of Economic Cooperation and Development (OECD), foreign-born men in Germany had an unemployment rate of 8.3% in 2014, while the rate for

native-born men was 4.8%.<sup>56</sup> Youth unemployment rates in Germany between 2012 and 2014 were between 8% and 9%. When we look at unemployment rates among German Muslims with migrant backgrounds, we discover that in 2008 approximately 4.2% of Turks, 8.3% of North Africans, and 12.8% of Middle Easterners were unemployed.<sup>57</sup> Even if we account for the global economic crisis since 2008, an unemployment rate of 21% among the foreign fighters seems well above societal trends by 2014.

### Education

The level of education completed may indicate a person's access to opportunities for upward mobility. German press reports revealed education information for 27 of the 99 fighters. Like the unemployment data, the education information reveals that German foreign fighters tend to perform below average in the German education system. Of the 27 profiles, only two had completed undergraduate degrees. Four of the fighters completed some college before departing. Eleven had completed secondary school and five were identified as high-school dropouts. According to the *Verfassungsschutz* report, of those travelers who had completed secondary education, 35% graduated from the more prestigious college-preparatory *Gymnasien* and 27% had completed the mid-tier *Realschule*—slightly below national averages of 43% and 35% for these schools, respectively.<sup>58</sup>

In summary, after a close look at five measures of integration—migrant background, citizenship, criminality, employment, and education—the data reveals mixed support for the integration deficit hypothesis ( $H_1$ ). The 99 foreign fighters included many migrants, but also a surprisingly high number of native Germans, usually converts, who from a cultural and linguistic perspective would be completely integrated within German society (unless their conversion exposed them to societal ostracism). The majority of foreign fighters had German citizenship, which is a positive indicator of integration. On the other hand, the high rate of criminal backgrounds, combined with relatively lower educational levels and higher unemployment rates among the volunteers, does indicate that this group as a whole may have been on the margins of German society.

### Social network analysis

We analyzed the extent of geographic clustering in the recruitment of 99 German foreign fighters at the state and city levels, and discovered that there are indeed geographic clusters, mainly at the city level. A state-level analysis reveals that nearly half of the fighters (43) lived in the German state of North Rhine-Westphalia before mobilization. The second most common state of origin was Hessen, followed by Lower Saxony. [Table 1](#) shows the foreign fighter distribution among Germany's 16 federal states and the variance between estimated Muslim population size per state (as of 2008)<sup>59</sup> and the percentage of foreign fighters from each state. Other than North Rhine-Westphalia and Baden-Württemberg, the variance at the state level is not all that significant. The former produced 10% more than expected, while Baden-Württemberg produced about 10% less than expected.

We did not find data on the size of Muslim populations at the city level. Therefore, to assess the degree of clustering at the city level, we focused on North Rhine-Westphalia, where nearly one-third of German Muslims live. We looked at 2011 census data for 71 cities in that state. For each city, we calculated the number of individuals with migration

**Table 1.** Foreign fighter state of origin (N = 99).

State	State Muslim Population (%)	Foreign Fighters from State (%)	Variance
North Rhine-Westphalia	33.1%	43.43%	+ 10.34%
Hessen	10.3%	14.14%	+ 3.84%
Lower Saxony	6.2%	9.09%	+ 2.89%
Baden-Württemberg	16.6%	7.07%	-9.53%
Bavaria	13.2%	6.06%	-7.14%
Berlin	6.9%	6.06%	No Var.
Hamburg	3.5%	4.04%	No Var.
Bremen	1.6%	2.02%	No Var.
Schleswig-Holstein	2.1%	2.02%	No Var.
Saxony-Anhalt	0.4%	1.01%	No Var.
Thuringia	0.2%	1.01%	No Var.
Brandenburg	0.1%	-	-
Mecklenburg-W. Pom.	0.1%	-	-
Rhineland-Palatinate	4.0%	-	-
Saarland	0.8%	-	-
Saxony	0.7%	-	-

and foreign (non-citizen) backgrounds as a percentage of the total city population. If clustering is occurring at the city level, we should observe that large numbers of foreign fighters come from few cities, not all 71 cities. Moreover, if the integration deficit hypothesis is valid, we should expect to see volunteers derive from cities with high percentages of migrant/foreign populations.

Table 2 shows clustering within three cities—Bonn, Solingen, and Dinslaken. Collectively, they produced 24 out of the 43 foreign fighters from North Rhine-Westphalia (about 56%). Furthermore, only 17 of the 71 cities produced foreign fighters, even though all of the cities contain populations that are at least 15% migrant/foreign. Lastly, while two of the three cluster cities have above average migrant/foreign populations, some of the cities with the largest percentages of individuals with such backgrounds produced zero or few foreign fighters. Dinslaken (one of the cluster cities with seven foreign fighters) falls well below average for migrant/foreign population (21.1%), and 41 cities that have higher populations of migrants/foreigners than Dinslaken produced zero foreign fighters in our study. This evidence casts doubt on the explanatory power of the integration deficit hypothesis ( $H_1$ ), and provides support for geographic clustering ( $H_{3a}$ ).

The other major cluster cities in our data are Frankfurt (12 foreign fighters) in the state of Hessen, and Wolfsburg (nine foreign fighters) in the state of Lower Saxony. Hessen has five independent cities and produced a total of 14 foreign fighters, yet 12 out of the 14 came out of Frankfurt. Lower Saxony has eight major cities, but all nine of its foreign fighters came out of Wolfsburg. Interestingly, the state of Baden-Württemberg, which is the third largest in terms of Muslim population size, is underrepresented in the list of foreign fighters despite producing seven militants. This is further evidence that mobilization is clustered, not geographically diffused, as hypothesis  $H_{2b}$  would predict.

### **Radical Milieu**

The German foreign fighter network was largely constituted by Islamists emanating from what German analysts call the *Salafist scene*, which is an umbrella term used to describe a range of activities by known Salafist preachers and organizations. Among a Muslim population of approximately four million, fewer than 10 thousand of these adhere to the

**Table 2.** City level analysis of clustering in North Rhine-Westphalia.

North Rhine-Westphalia State	Total Population	Population with German Nationality	Persons with Migration Background	Foreigners	(Migration Background + Foreigners) /Total Population	# Foreign Fighters
	17,436,030	15,853,610.0	2,680,950	1,582,430	24.5%	43
City	Total Population	German Nationality	Migration Background	Foreigners	(Migration Background + Foreigners) /Total Population	# Foreign Fighters
Lüdenscheid	72,980	62,940.0	15,980	10,040	35.7%	
Paderborn	141,730	131,270.0	39,160	10,460	35.0%	
Gütersloh	93,710	85,270.0	23,380	8,440	34.0%	
Bielefeld	323,650	287,120.0	69,920	36,530	32.9%	
Düsseldorf	582,760	489,070.0	97,980	93,690	32.9%	1
Hagen	187,010	163,680.0	37,830	23,320	32.7%	
Herford	64,830	59,470.0	15,610	5,360	32.3%	3
Lünen	85,700	76,880.0	18,890	8,820	32.3%	
Köln	997,900	836,220.0	160,490	161,680	32.3%	1
Leverkusen	158,590	140,490.0	32,840	18,100	32.1%	1
Troisdorf	72,230	64,380.0	15,130	7,860	31.8%	
Wuppertal	340,960	295,940.0	63,340	45,020	31.8%	1
Duisburg	486,750	414,370.0	79,630	72,380	31.2%	
<b>Bonn</b>	<b>304,020</b>	<b>267,600.0</b>	<b>57,680</b>	<b>36,430</b>	<b>31.0%</b>	<b>9</b>
Aachen	234,840	205,380.0	40,960	29,460	30.0%	1
Neuss	149,680	132,050.0	27,050	17,640	29.9%	
Remscheid	109,550	94,730.0	17,880	14,820	29.8%	
Gelsenkirchen	256,800	222,820.0	41,550	33,980	29.4%	
Düren	87,990	78,020.0	15,850	9,970	29.3%	
Hamm	175,310	157,260.0	33,150	18,050	29.2%	
Iserlohn	94,150	85,460.0	18,790	8,690	29.2%	
Detmold	73,170	69,180.0	17,220	3,990	29.0%	
<b>Solingen</b>	<b>154,300</b>	<b>134,960.0</b>	<b>25,350</b>	<b>19,340</b>	<b>29.0%</b>	<b>8</b>
Dortmund	568,820	500,130.0	95,800	68,690	28.9%	
Lipp	64,660	58,910.0	12,640	5,760	28.5%	
Ahlen	51,960	46,210.0	8,920	5,750	28.2%	
Krefeld	221,130	196,850.0	38,130	24,280	28.2%	
Siegen	99,060	90,400.0	19,160	8,660	28.1%	1
Sankt Augustin	53,740	49,950.0	11,050	3,790	27.6%	
Herne	154,590	136,660.0	24,600	17,930	27.5%	
Menden (Sauerland)	54,250	50,430.0	11,100	3,820	27.5%	
Minden	79,710	74,800.0	16,620	4,910	27.0%	
Velbert	80,920	72,630.0	12,950	8,290	26.2%	
Mönchengladbach	253,720	228,890.0	40,650	24,820	25.8%	2
Moers	103,550	93,800.0	16,820	9,750	25.7%	
Gladbeck	73,690	66,070.0	10,960	7,620	25.2%	1
Unna	58,710	55,340.0	11,420	3,380	25.2%	
Essen	563,160	508,370.0	83,310	54,800	24.5%	
Recklinghausen	115,530	105,290.0	17,920	10,240	24.4%	
Bergheim	58,760	52,550.0	8,110	6,200	24.4%	1
Euskirchen	55,000	51,250.0	9,610	3,750	24.3%	2
Dormagen	61,940	56,730.0	9,730	5,210	24.1%	
Hürth	54,880	50,310.0	8,400	4,570	23.6%	
Mülheim an der Ruhr	166,290	149,200.0	22,180	17,100	23.6%	
Bochum	360,470	331,530.0	55,860	28,950	23.5%	1
Oberhausen	209,220	186,390.0	26,250	22,830	23.5%	
Bottrop	116,820	108,030.0	18,270	8,790	23.2%	
Bad Salzuflen	52,090	48,460.0	8,400	3,630	23.1%	
Bergisch Gladbach	108,350	100,000.0	16,250	8,350	22.7%	1
Witten	96,010	88,780.0	14,330	7,240	22.5%	
Herten	61,300	54,750.0	7,180	6,550	22.4%	
Marl	84,240	77,680.0	12,300	6,560	22.4%	
Kerpen	63,140	57,190.0	8,060	5,950	22.2%	
Langenfeld	56,580	52,340.0	8,140	4,240	21.9%	

*(Continued)*

**Table 2.** (Continued).

North Rhine-Westphalia State	Total Population	Population with German Nationality	Persons with Migration Background	Foreigners	(Migration Background + Foreigners) / Total Population	# Foreign Fighters
	17,436,030	15,853,610.0	2,680,950	1,582,430	24.5%	43
City	Total Population	Population with German Nationality	Persons with Migration Background	Foreigners	(Migration Background + Foreigners) / Total Population	# Foreign Fighters
Grevenbroich	61,620	55,640.0	7,450	5,980	21.8%	
Stolberg	56,110	50,980.0	6,940	5,130	21.5%	
<b>Dinslaken</b>	<b>67,610</b>	<b>62,850.0</b>	<b>9,480</b>	<b>4,760</b>	<b>21.1%</b>	<b>7</b>
Ratingen	86,290	79,780.0	11,560	6,510	20.9%	
Hattingen	54,020	50,610.0	7,900	3,410	20.9%	
Arnsberg	74,060	69,450.0	10,530	4,610	20.4%	
Münster	287,060	266,530.0	38,040	20,530	20.4%	
Ibbenbüren	50,360	48,160.0	7,830	2,200	19.9%	
Pulheim	52,880	49,600.0	7,130	3,280	19.7%	
Eschweiler	54,500	50,500.0	6,400	4,010	19.1%	
Wesel	59,970	56,350.0	7,770	3,620	19.0%	
Rheine	72,490	68,400.0	9,580	4,080	18.8%	
Castrop-Rauxel	74,440	69,560.0	9,000	4,870	18.6%	2
Viersen	74,470	68,750.0	7,750	5,720	18.1%	
Willich	50,110	47,150.0	5,350	2,960	16.6%	
Dorsten	76,670	73,420.0	8,510	3,250	15.3%	
Bocholt	70,800	66,760.0	6,670	4,050	15.1%	

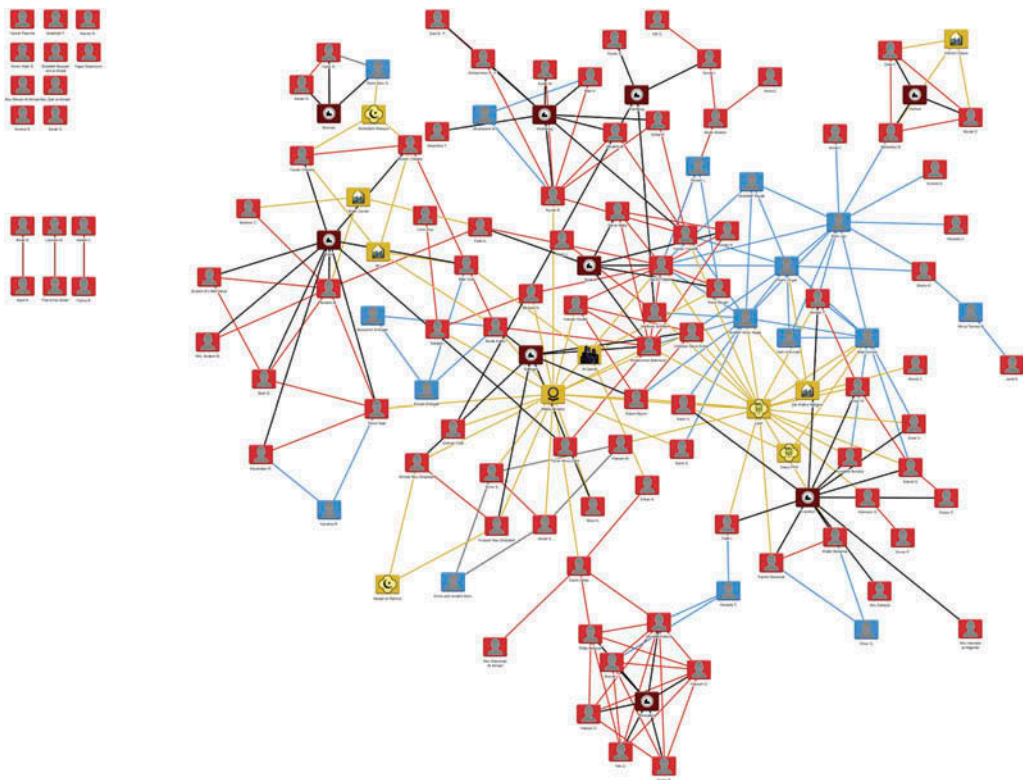
fundamentalist interpretation of Islam known as Salafism. Some of these have taken up an extreme version of Salafism that embraces jihadism.<sup>60</sup> Collectively, Salafists engage in missionary work, Internet outreach, and have visible presence in German cities and towns. Activities the German government considers part of the scene include Islamic seminars, Qur'an distribution, Salafist mosques, and benefit events for Salafist causes (most commonly in areas of the world where Salafists perceive Muslim groups to be suffering). Spiritual and charismatic leadership of the scene comes from several popular Salafist preachers, including Hassan Dabbagh, Ibrahim Abou Nagie, Pierre Vogel, and Sven Lau. These preachers present their *dawa* (proselytizing) in German, generating a wide following among second- and third-generation immigrants as well as native German followers.<sup>61</sup>

Figure 4 is an overview of the network, connecting the 99 profiled German foreign fighters to each other and to Salafist organizations or preachers prior to going abroad. It also situates them geographically by linking them to the nine major cities from which they came. Nodes on the network map are color-coded by type. Red nodes represent the original 99 foreign fighters and the red links indicate personal connections among those nodes. Blue nodes and links represent the recruiters, supporters, and preachers of the Salafist scene. Yellow nodes and links represent prominent Salafist scene organizations and their interconnections. Finally, the burgundy nodes represent key cluster cities identified in our study.

The first thing to note is that most of the profiled fighters were mobilized within a single interconnected network. The overall German foreign fighter map in Figure 4 shows ten *orphan nodes* in the top left corner. Orphan nodes are those nodes that have no verifiable connection to any other node in the network. Additionally, three pairs of nodes are displayed below the orphan nodes. These represent foreign fighters who, while connected to one another, could not be tied to the larger network.

Breaking the network map down by connection types allows a clearer understanding of the relationships between different nodes. In all of the network maps, the relative position





**Figure 4.** The German foreign fighter network.

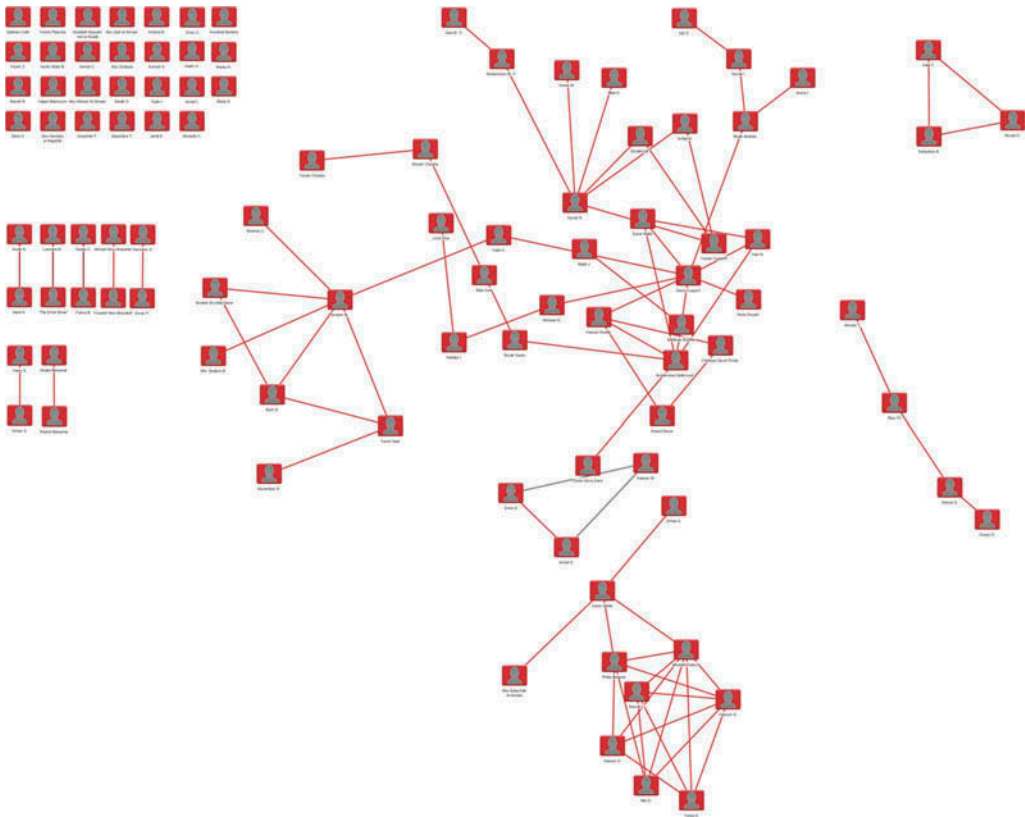
of the connected nodes within the network is retained. When different layers of the network map are removed, some nodes become disconnected (orphaned) from the rest of the network. Orphan nodes and pairs are displayed in the top left corner of the map. In this way, we reveal the significance of connection types.

### ***Personal connections among foreign fighters***

The first level of the link analysis (Figure 5) shows all of the personal friendship connections and associations between each of the 99 foreign fighters before they departed to the combat area. Each node on the network map represents a single German foreign fighter. This analysis shows that 71 of the 99 profiles had a personal connection with at least one other German foreign fighter before departing Germany. This initial network picture also shows 27 orphan nodes and 7 disconnected pairs. Finally this first level of link analysis shows three distinctive clusters of individual fighters. These clusters correlate geographically to Dinslaken, Bonn, and Wolfsburg.

### ***Connections with recruiters, supporters, and Salafist scene activists***

While maintaining the relative position of the 99 fighters on the map, the connections to recruiters, supporters, and Salafist scene leaders is added in Figure 6 and is represented as



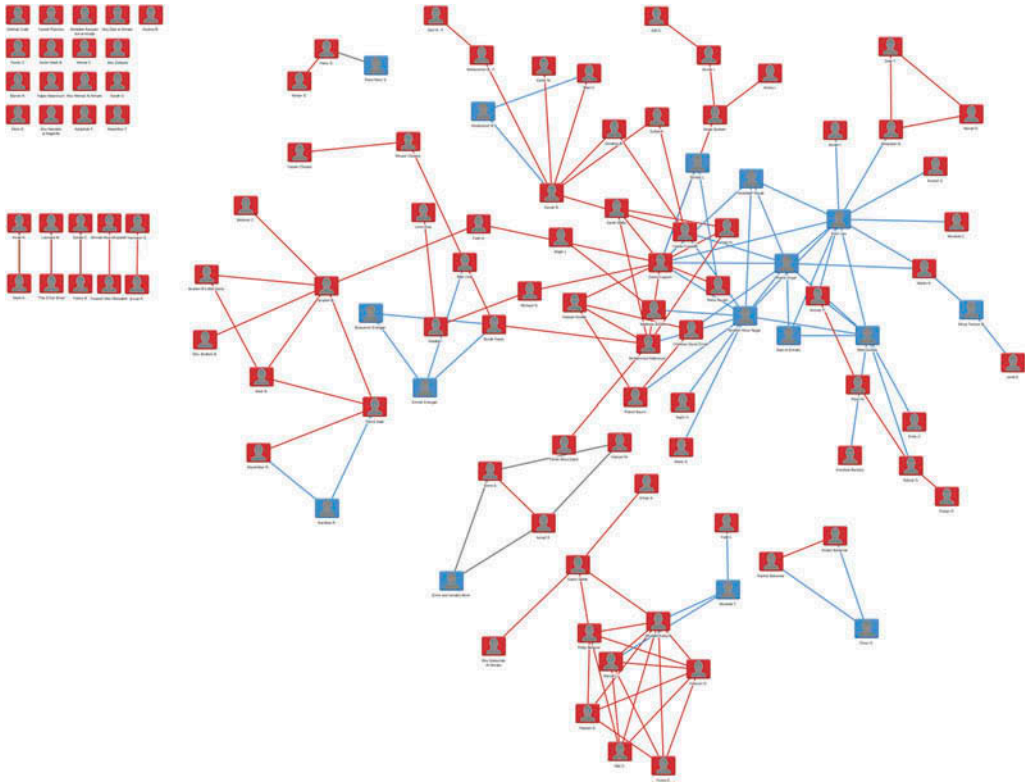
**Figure 5.** Personal connections among foreign fighters before travel.

blue-colored nodes and links. In total, 35 fighters had links to one or more recruiters, supporters, or Salafist scene leaders before departure. When these relationships are added to the network map, the number of orphan nodes is reduced to just 17 with only five pairs of fighters remaining disconnected from other fighters or recruiters. Therefore, 82 of the 99 profiled fighters had preexisting peer-to-peer relationships with at least one fighter, recruiter, supporter, or Salafist scene leader before their departure to Syria and Iraq.

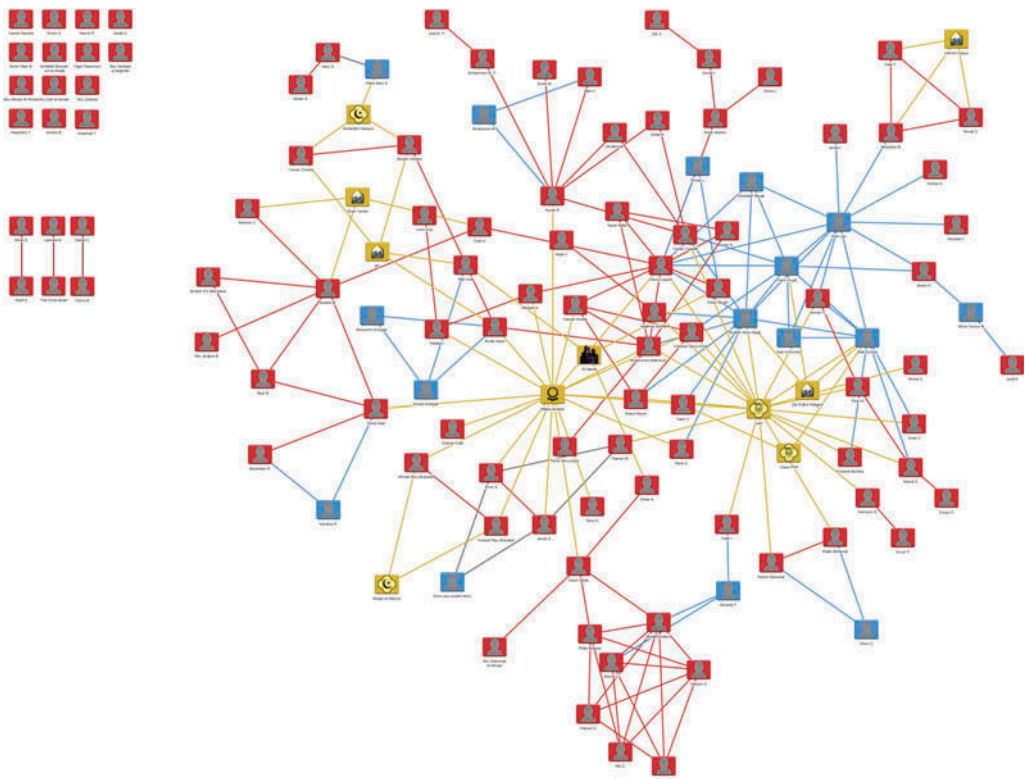
### **Group membership and participation**

The next layer on the network mapping (Figure 7) depicts Salafist groups—most importantly *Lies!* and *Millatu Ibrahim*—in yellow. Our analysis identified 20 fighters with membership in *Millatu Ibrahim* and 18 who had participated with the *Lies!* Qur'an distribution campaign. Five of the fighters are linked to both *Lies!* and *Millatu Ibrahim*. Other Salafist organizations on the map include Salafist mosques, *dawa* organizations, and jihadist organizations, such as Al Qaeda and the Islamic Movement of Uzbekistan.

Establishing that these fighters belonged to the same formal and informal organizations does not mean that they knew one another. Indeed, both *Lies!* and *Millatu Ibrahim* had members in multiple German cities and it would be unrealistic to assume that all members of these organizations knew all other members. Shared membership in such organizations



**Figure 6.** Foreign fighter links to recruiters, supporters, and salafist leaders.



**Figure 7.** Connections to Salafist organizations.

does, however, establish that these fighters were part of a common network before their mobilization.

When the group links are added to the network map in Figure 7, the number of orphan nodes is reduced to just 14 with three remaining disconnected pairs. Thus, the network mapping analysis shows that 79 out of 99 profiles were mobilized out of an interconnected Salafist network inside Germany, which is strong evidence for hypothesis  $H_{3a}$ . Only 20 foreign fighters could not be directly linked to the network—making it plausible to suggest that these 20 were radicalized and recruited online. A closer examination of these remaining fighters is therefore necessary in order to determine whether all 20 were, in fact, truly disconnected from the Salafist scene and whether they may have been radicalized through social media instead of through peer-to-peer networks.

### Peer-to-peer or online mobilization?

The 20 remaining foreign fighters consist of 14 men and 6 women. Their average age is 24 and they come from 18 different cities in Germany. A qualitative analysis of their background reveals four broad assessments of their online radicalization: *confirmed*, *likely*, *possible*, and *unlikely* (see Figure 8).

In the *confirmed* category, German press reports indicate online social media was the primary radicalization factor. All four of these cases involved women who were recruited through undisclosed social media contacts. Each came from a different German city, though each linked up with one other woman immediately before traveling to Turkey.

Fighters in the *likely* category were similarly geographically unconnected to each other and press reports provide no indication of face-to-face contact with the Salafist scene. At the same time, press reports do not specifically cite online factors in their radicalization either. This group includes two women and one man. One of the women, Sarah O, has since become a regular blogger, encouraging other young women to join her in Syria.<sup>62</sup>

The *possible* category group of the unconnected fighters has the lowest overall information density when it comes to network connections. This group includes the twins Kevin and Mark K from the North Rhine-Westphalia city of Catrop Rauxel. According to *Dabiq*, the twin converts died as suicide bombers in a battle near Baiji, Iraq.<sup>63</sup> Detailed German press reports about Kevin's and Mark's histories reveal no specific connection to the Salafist scene, though Kevin is said have come under the "influence" of radical Salafist preachers.<sup>64</sup> The exact radicalizing influences for these fighters remain unclear, but online social media may have been a factor.

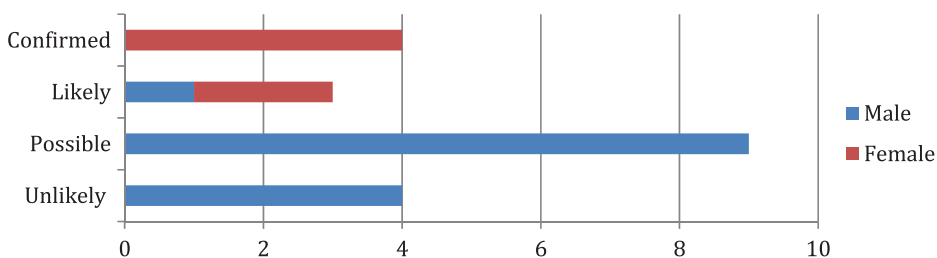


Figure 8. Assessment of online radicalization for 20 unconnected volunteers.

The final group of unconnected fighters includes four fighters who were most likely either part of the Salafist scene or were at least mobilized in peer-to-peer encounters. The first, Aleaddine T, could not be directly tied to other fighters, although several reports claim he was part of the Wolfsburg group. The other three fighters in this category are Aslanbek F, Kerim Mark B, and Yannik Pipiorka.

Aslanbek F, a Chechen-German from Kiel, traveled to Syria in December 2012 with a group of eight other men whose names were not identified. He was killed in clashes outside of Aleppo shortly after arriving. German newspaper interviews with Aslanbek's wife reveal that in the days after his death, his family received visitors from "all over Europe" who both knew about Aslanbek's death and (like his wife) believed Aslanbek to be a martyr.<sup>65</sup> Before his departure, Aslanbek had attended the *Ibnu Taymiyya* Mosque in Kiel, which has been under observation by the German authorities for radicalizing several members and sending them to fight in jihadist causes. Despite the similarities between Aslanbek's story and the stories of countless other German foreign fighters, no links could be found in German media that would connect Aslanbek to the rest of the network. Nevertheless, based on the description of Aslanbek's departure in a group of eight others and his ties to a fundamentalist mosque, it seems likely that Aslanbek was recruited and mobilized within a traditional social network.

Kerim Mark B is a volunteer who traveled back to Germany to have a shrapnel wound treated before returning to Syria in 2014. Kerim first appeared in German media in 2012 when his name was added to a government list of potentially dangerous Islamists living in Germany.<sup>66</sup> At the time Kerim was living in Düsseldorf and was active in a Salafist mosque near the city's central train depot. Like Aslanbek F, Kerim was likely connected with the Salafist scene, but those contacts could not be verified in German press reports.

Yannik Pipiorka was a developmentally challenged and occasionally homeless 23-year-old Polish-German. Prior to his travel to Syria, Yannik lived on the streets in the Southern German city of Freiburg. According to acquaintances and social workers in Freiburg, Yannik encountered his jihadist recruiters on the streets of Freiburg. Subsequent searches for evidence that Yannik may have been radicalized online were fruitless because he had no social media accounts. Yannik's radicalization took place between the fall of 2013 and the summer of 2014, when he departed for Turkey and then on to Syria. In May of 2015, Yannik made headlines in Germany after detonating an explosives-laden truck at a checkpoint in Baiji, Iraq, killing himself and eight Iraqi soldiers.<sup>67</sup>

Data from the German security report identified social media as an "influential radicalizations factor" in 67 cases during the pre-radicalization phase. However, of these 67, only 13 were not also connected to either the Salafist scene, or did not have family, friend, or school connections to Salafist networks. Thus, only six percent of the pre-radicalization cases were identified as being exclusively influenced by the jihadi social media in the early stages of radicalization. During the later phases of radicalization the number of online-only cases drops to just three percent.<sup>68</sup> In sum, the overwhelming empirical evidence shows that, contrary to hypothesis  $H_{2a}$ , social media was not a significant mobilization factor independent of actual peer-to-peer networks.

## **Bloc recruitment**

The mobilization and travel patterns of the 99 foreign fighters reveal that over one third (34 out of 99) traveled to the combat area in groups, including friends and family, which is strong evidence for the bloc recruitment hypothesis ( $H_{3b}$ ). Only one of the 99 fighters, Yannik Pipiorca, was specifically listed in German press reports as having traveled alone. The *Verfassungsschutz* study also showed that 140 out of 263 travelers (53%) departed Germany with friends; only 54 (14%) were identified as having departed alone. The combined number known to have traveled in groups of friends or family is 209 out of 263, or 79 percent. Another government study of foreign fighters from Berlin shows that 35% of the 60 who traveled to Syria or Iraq between 2012 and 2015 did so with some combination of spouses and children.<sup>69</sup>

## **Conclusion**

Understanding the foreign fighters phenomenon is a pressing international security concern. Foreign fighters often flock to extremist groups in civil conflicts, and are potentially destabilizing, violent, and less amenable to demobilization and reintegration than local forces.<sup>70</sup> Some will undoubtedly return to conduct attacks against their homelands, or disperse to conflict zones where they could leverage their militant skills.<sup>71</sup> It is estimated that one out of every nine foreign fighters is likely to conduct a “blowback” attack in their home country after returning from fighting abroad.<sup>72</sup> Indeed, attacks in Paris and Brussels in November 2015 and March 2016, respectively, involved individuals who had traveled as foreign fighters to Syria or Iraq. A better understanding of the causal factors involved in foreign fighter mobilization should help governments craft policies to sever an important source of support for transnational extremists, and could potentially aid in mitigating foreign conflicts and diminish the rate of international terrorist attacks.

In this study, we presented original data on 99 German foreign fighters and supplemented it with a German government report to explain how more than 400 German foreign fighters mobilized for Syria and Iraq between 2011 and 2015. We tested three sets of hypotheses that revolve around failed integration, online radicalization, and social network mobilization.

The data lends some support for the integration deficit hypothesis in Germany, and comports with other studies that have found high rates of unemployment, lower levels of education, and high rates of criminality among foreign fighters from the Netherlands, Belgium, and France.<sup>73</sup> However, several other findings suggest additional research is necessary to validate the integration deficit theory. The integration deficit hypothesis does not account for the statistically significant number of native German converts joining the movement, nor does it explain why citizenship—a positive indicator of integration—did not make Germans any less likely to join the foreign fighter movement. Lastly, some of the cluster cities from which foreign fighters hailed were not ones with high percentages of individuals with migrant heritage or foreign backgrounds, while other cities with high concentrations of migrant/foreign populations produced few or no foreign fighters.

Concerning online mobilization, our study finds meager evidence to support the contention that online recruitment is a primary vector of radicalization or that it has supplanted peer-to-peer recruitment. In our data of 99 recruits, somewhere between four

and seven percent of foreign fighters are reliably coded as online mobilization. This was particularly the case among female and younger recruits. The *Verfassungsschutz* study finds that only six percent of German foreign fighters were recruited or mobilized solely through online social networks.<sup>74</sup> These findings accord with Rabasa and Benard's contention that "the transition from radicalization to terrorism almost always takes place in face-to-face encounters and very seldom on the internet."<sup>75</sup>

Concerning the social network mobilization hypotheses, link analysis of the 99 German foreign fighters in our dataset has shown that nearly 80% were mobilized within a single interconnected network. Our analysis also shows that the phenomenon of German foreign fighters is geographically clustered, not diffused. Nearly half of our dataset originated from North Rhine-Westphalia, and three cities within that state—Bonn, Solingen, and Dinslaken—produced 55% of those foreign fighters. Moreover, most of the recruits emanated from the so-called Salafist scene, not from mainstream Islamic organizations. Lastly, both our research and the German government findings show high levels of bloc recruitment. Between one third (our data) and one half (*Verfassungsschutz* report) of all German foreign fighters traveled to the combat areas as groups of friends or family. All these findings align well with social network analysis, showing that similar to other radical movements, jihadists in Germany recruit within dense social networks and preexisting formal and informal groups.

Our study highlighted at least three areas that merit additional research. The unprecedented percentage of female recruits being drawn into the jihadist foreign fighter movement remains underexplored. Our data demonstrated that women are more frequently recruited through social media than their male counterparts. Additionally women are recruited at younger ages. This suggests that gender is an important variable in differential recruitment patterns.

Another puzzle that warrants attention is the high rates of converts within the foreign fighter movement. Despite being less than one percent of the entire Muslim population in Germany, converts constituted at least 23% of the foreign fighters in our data. What is it about conversion that might contribute to radicalization and mobilization abroad? Perhaps this phenomenon reflects the recruiters' preferences for attracting non-traditional fighters to their movement.

The last area that merits follow-on research relates to extending our geographic analysis to the neighborhood level within German cities. We limited our analysis of clustering to 71 cities within the state that has the largest concentration of Muslims. While this research design revealed significant geographic clusters, it did not show whether the clustering effect continued down to the district, neighborhood, or local mosque levels within German cities. A close examination of smaller geographic areas may shed light on the integration factors that were not satisfactorily explained in this study. Neighborhood-level economic and census data, overlaid with foreign fighter mobilization data, may reveal patterns related to Muslim integration in German society. Such research could help refine scholarly understanding of how integration factors relate to the formation of radical networks that drive foreign fighter mobilization.

## Funding

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## Notes

1. Diehl Jörg, Hubert Gude, Julia Jüttner, Christoph Reuter, Fidelius Schmid, and Holger Stark, "Mach Dir Keine Sorgen," *Der Spiegel*, June 2014.
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