RESEARCH ARTICLE

The role of vulnerable environments in support for homegrown terrorism: Fieldwork using the 3N model

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Abstract

The 3N model of radicalization proposes that violent radicalization is the result of the contribution of needs, networks, and narratives. Although research has mainly been supportive of this perspective, a substantial amount of ground remains uncovered regarding the network component of the model. Within this framework, we examine why individuals living in certain social environments tend to harbor more positive attitudes toward homegrown terrorism than others. Building on prior research, we hypothesized that individuals living in social environments known to be vulnerable (vs. less vulnerable) are more likely to experience a sense of significance loss (i.e., lack of social integration, perceived conflicts between religious groups), find solace in religious social networks (i.e., mosques), and thus adhere to radical narratives (i.e., legitimization of terrorism). A study with 365 young Muslims from different cities in Spain (Almería, Barcelona, Ceuta, and Melilla) supported these predictions. Theoretical and practical implications for the study of violent extremism are discussed.

KEYWORDS
3N model of radicalization, environment, jihadist terrorism legitimization, mosque attendance

1 | INTRODUCTION

Jihadist radicalization is one of the great problems of our time. The spread of radical Islam compromises democracy by fomenting hatred toward Western values while proposing a simple view of the world where good and evil collide (Doosje et al., 2016; Taylor & Horgan, 2001). Homegrown jihadist radicalization is also a significant challenge to Western societies because it exploits media to achieve maximum visibility, divides society, and influences government decisions (Schuurman & Horgan, 2016). The epitome of the threat posed by jihadist terror groups is Daesh—arguably one of the deadliest and most significant geopolitical threats due to its demonstrated ability to galvanize thousands of new recruits worldwide with slick extremist digital content, conduct successful attacks in

Europe (Hegghammer & Nesser, 2015), and conquer large swathes of land, roughly the size of Britain («ISIS "caliphate" down to 1% of original size», 2019). In addition to the spread of terror and radical ideas, the rise of antimigration movements in Europe (Park, 2015), the refugee crises (Postelnicescu, 2016), and the poor handling of multiculturalism (Chin, 2017) have created the perfect storm for anti-Muslim sentiments, Islamophobia, and Muslims feeling socially alienated—factors that facilitate adherence to radical narratives (Bélanger et al., 2019). Hence, to prevent further jihadist radicalization, it is imperative to investigate how and where these ideologies spread. The purpose of this study is to examine such dynamics by providing empirical evidence regarding the role of social environments and mosque attendance in radicalization within the framework of the 3N model.

2 | A 3N EXPLANATION OF RADICALIZATION

The present research is grounded in the 3N model of radicalization (Kruglanski, Bélanger, & Gunaratna, 2019), which argues that violent extremism emerges as the result of the confluence of three factors: (1) needs, (2) narratives, and (3) network. We describe them in turn.

The needs component refers to motivational aspects. For years, numerous motives have been proposed to explain the radicalization process (e.g., revenge, humiliation, financial incentives, oppression). The 3N model proposes that these are connected to a common denominator: the quest for personal significance (Kruglanski et al., 2013, 2014; Kruglanski, Chen, Dechesne, Fishman, & Orehek, 2009) —the need to feel respected, "to be someone" and to feel that one's life has meaning.

This search for significance can be activated in various circumstances, but especially when there is a loss of significance such as when individuals experience the pang of humiliation (Kruglanski, Gelfand, Bélanger, Hetiarachchi, & Gunaratna, 2015), oppression (Lobato, Moya, Moyano, & Trujillo, 2018), anomia (Troian et al., 2019), incompetence (Dugas et al., 2016), social alienation (Bélanger et al., 2019), or uncertainty (Webber et al., 2018). Situations that produce a significance loss produces a strong impetus to retrieve significance. It should be noted that this need to search for personal significance is universal, and generally, people fill it through positive and prosocial means (work, family, emotional relationships, art, sport; Jasko, LaFree, & Kruglanski, 2017). However, sometimes prosocial means to attain significance are unattainable or unavailable, in which case individuals in certain milieu can be tempted to turn to alternative, clandestine ways of fulfilling their significance quest, such as joining a group that upholds antisocial values, such as a criminal gang or radical group (della Porta, 2013).

The aforementioned groups are social networks that can empower its members with material resources, but above all, a positive sense of self and a feeling of brotherhood—strong interpersonal relationships that bind individuals together (Gómez et al., 2017). These relationships provide the social backdrop against which the process of radicalization unfolds. Indeed, in addition to providing significance, networks are vectors of (1) ideological transmission and (2) attitude polarization due to intragroup consensus (Webber & Kruglanski, 2017). Given these dynamics, individuals who commit violent actions at the behest of the group and its ideology are admired by other group members and considered honorable (e.g., martyrs, heroes). In other words, the social network is the medium par excellence through which personal significance can be obtained and ideologies disseminated—a concept which we turn to next.

Narratives refer to the ideological component of radicalization. From a psychological point of view, these narratives are useful for people because they establish what is considered valid to achieve personal significance (Webber & Kruglanski, 2017). Thus, people articulate their sense of reality around shared stories that give them meaning and certainty. In the case of extremist ideologies, they generally offer a polarized vision of society ("us and them"), which in certain cases legitimize violence and aggression toward antagonistic groups and civilians (Bélanger et al., 2019). Extremist ideologies are not confined to any specific groups and are across the full spectrum of politico-religious tendencies (e.g., jihadism, extreme right, extreme left; Webber, Kruglanski, Molinario, & Jasko, 2020).

The 3N model postulates that these three factors contribute to radicalization in a dynamic and interactive way. One trajectory that has been documented is the transition from need (personal significance) to joining like-minded individuals (networks) to supporting political violence (narratives; see Bélanger et al., 2019, 2020). It must be emphasized that the loss of personal significance is a vulnerability that can be easily exploited by recruiters to legitimize political violence. Likewise, certain contexts that facilitate the loss of significance (ghettoized urban environments, prisons, conflict zones), may constitute favorable scenarios for radicalization (Jasko et al., 2019). Research for instance has found that cities characterized by scarce economic opportunities, high crime rates, and low social integration were associated with greater risk of Islamist radicalization (Moyano & Trujillo, 2014a, 2014b; Reinares & García-Calvo, 2017). One question that we pose in the present article is why social contexts that are prone to producing significance loss also tend to produce support for terrorism. Here, we argue that in vulnerable contexts, certain mosques can play a role in this process.

3 | MOSQUES AS SUPPORT NETWORKS

Mosques can be used by jihadi actors to recruit new followers (Trujillo, Alonso, Cuevas, & Moyano, 2018) and indeed, there are several examples of mosques known to have played a role in jihadist radicalization in many European countries like France (Campion, 2015), the United Kingdom (Weeks, 2016), Germany (Azzam, 2007), Netherlands (AIVD, 2015), and Spain (Reinares & García-Calvo, 2018). This seems related to the emergence of vulnerable environments in Europe. For example, in the United Kingdom, there were two potential hotbeds in the City of London. Both were close to mosques, one around the Finsbury Park mosque in north London and the other around the Masjid Ibn Taymeeyah mosque in south London, where a growing number of disenfranchised—second- and third-generation—Muslim youths, who did not fit into society nor into their families' moderate religious practices, were more comfortable with extreme versions of Islam (Weeks, 2016).

According to Silber and Bhatt (2007), mosques can become "radicalization incubators," meaning that they can amplify the radicalization process and allow an individual to experiment with violent beliefs. Extremists find it easier to observe and contact Muslims in mosques to recruit and radicalized them (Hoffman, 2018). In this vein, Trujillo, León, Sevilla, and González-Cabrera (2010) found that in certain Spanish mosques, sermons included political discussions (e.g., Irak and Palestine problems) instead of more social debates (e.g., daily life problems, integration). This is an indicator of the power of sermons to polarize and focus attitudes on Muslim grievances, which, in turn, could be used by radical recruiters.

In general, mosques can be involved in spreading jihadist ideology in two different ways: (1) through imams radicalizing their followers and (2) radical groups forming among mosque attendees (even if their imam is moderate; Campion, 2015).

The first form usually consists of imams extolling the virtues of violent jihad (Klausen, Campion, Needle, Nguyen, & Libretti, 2016) and preaching anti-Western, pro-jihadist values during their sermons (Azzam, 2007; Campion, 2015). These imams are usually related to foreign organizations or cells affiliated to these organizations that provide funding, support, or guidance from more extensive networks (e.g., Omar Mahmoud Othman, alias Abu Qatada, and Mustafa Kamel, alias Abu Hamza al-Mazri, who were active in London; Silke, 2008).

The second form involves the community attending the mosque. The social interactions with the attendees reinforce their ideological commitment and can provide links to organizations supporting jihad through already connected members (Silke, 2008) and through mechanisms such as social learning (Akins & Winfree, 2017; Becker, 2019). According to Sageman (2004) and Silke (2008), groups formed around mosques progressively develop strong bonds that promote intense loyalty and emotional support. Moreover, these groups can increase isolation from moderate social environments, thereby increasing the probability of attitude polarization.

4 | THE PRESENT RESEARCH

The foregoing analysis suggests that vulnerable environments can foment a loss of significance that can encourage people to join social networks to restore their significance, leaving them prone to adopting violence-supporting narratives. Therefore, we present a study where we predict that individuals living in vulnerable (vs. nonvulnerable) environments will report greater loss of significance (need), which in turn will predict more frequent mosque attendance (network), and thus greater support for radical ideologies (narrative). Thus, we predict an indirect effect between the vulnerability of the environment and support for radical narratives through the loss of significance and the support of the network found in the mosque.

5 | METHODOLOGY

5.1 | Participants and procedure

Three hundred sixty-five Muslim high-school students (208 women) aged between 13 and 19 years ($M = 15.20$, $SD = 1.10$) were surveyed. Regarding their nationality, 49.60% were Spanish, 4.10% were also Spanish, but their parents were foreigners, and 46.30% were foreigners from Morocco. The sample was collected in Spanish high schools located in Almería (43.00%), Barcelona (8.30%), Ceuta (21.60%), and Melilla (27.10%). Previous research suggests that these locations are at greater risk of radicalization (Moyano & Trujillo, 2014a, 2014b; Reinares & García-Calvo, 2017). Indeed, the results of a study by Moyano and Trujillo (2014b) indicated that

muslim youth in Almería legitimize terrorism to a greater degree that muslim youth in other cities. One potencial reason to this phenomenon is that Almería is characterized by a high concentration of poorly integrated inmigrants living in precarious economic conditions (i.e., low income, high unemployment rate) (Capote & Nieto, 2017; Checa & Arjona, 2005). Based on these indicators, we considered individuals living in Almería (vs. the individuals in other environments) to be part of a more vulnerable environment.

The survey was administered in several high schools. Participants completed it on a voluntary basis and written informed consent was obtained from the participants' parents.

5.2 | Measures

5.2.1 | Need

The loss of significance was measured with two variables. First, the perception of conflict between Muslims and Christians, which was measured with a 10-item scale taken from Moyano (2011) (e.g., "In my school, Muslim and Christian students distrust each other"; $\alpha = .65$). Higher scores correspond to a higher perception of conflict, which means a higher loss of significance.

Second, social integration, (i.e. the extent to which participants are excluded from society), was measured with five items taken from Moyano (2011) (e.g., "I am currently learning positive things for improving as a person and being able to find a job"; $\alpha = .81$). Lower scores relate to less perception of social inclusion and thus to a loss of significance. Both scales were answered on a five-point Likert scale ranging from 1 (fully disagree) to 5 (fully agree).

5.2.2 | Network

The network was conceptualized as the frequency of mosque attendance, assuming that are usually contexts where relevant social and affective networks are established (Silber & Bhatt, 2007). Responses to this last question were measured on seven-point Likert scale from 1 (never) to 7 (several times every day).

5.2.3 | Radical narrative

The radical narrative was conceptualized as the legitimation of terrorist acts and it was evaluated with a single item (i.e., "The 3/11 terrorist attacks in Madrid were fair and deserved"). Responses were measured on five-point Likert scale ranging from 1 (fully disagree) to 5 (fully agree).

5.2.4 | Sociodemographic variables

We measured several sociodemographic variables such as age, gender (coded: 0 for male and 1 for female), the highest level of

education completed, nationality (coded: 0 Spanish and 1 foreigner), city of residence (Almería, Barcelona, Ceuta, or Melilla), and religion.

6 | RESULTS

First, from the four selected environments (i.e., Almería, Barcelona, Ceuta, and Melilla), previous research has shown that Almería was the context that presented more indicators of vulnerability (Moyano & Trujillo, 2014a, 2014b). Thus, we created a dummy variable as follows: low-vulnerable environment included participants from Barcelona, Ceuta, and Melilla (code as −1; N = 208, 57%), and high-vulnerable environment included participants in Almería (code as 1; N = 157, 43%). As expected, t test analyses showed that participants in the high-vulnerable environment presented higher scores in the legitimation of terrorism (low-vulnerable environment: M = 1.93, SD = 1.43; high-vulnerable environment: M = 3.43, SD = 1.29; t = 10.239; p < .001), mosque attendance (low-vulnerable environment: M = 2.94, SD = 1.80; high-vulnerable environment: M = 3.65, SD = 2.34; t = 3.146; p = .002), perceived conflict (low-vulnerable environment: M = 1.99, SD = 0.79; high-vulnerable environment: M = 3.17, SD = 0.89; t = 12.722; p < .001), and lower in social integration (low-vulnerable environment: M = 4.27, SD = 0.79; high-vulnerable environment: M = 3.51, SD = 0.94; t = 7.998; p < .001). We display means, standard deviations, and correlations among the variables in Table 1.

Second, path analyses were conducted to examine the influence of vulnerable environment on terrorism legitimation through (1) perceived conflict and social inclusion (need), and (2) frequency of mosque attendance (network). The model was tested with *lavaan* package for *R* using maximum likelihood estimation procedures (Rosseel, 2012). A covariance was added between the standard errors of perceived conflict and social integration because they were negatively correlated (see Figure 1).
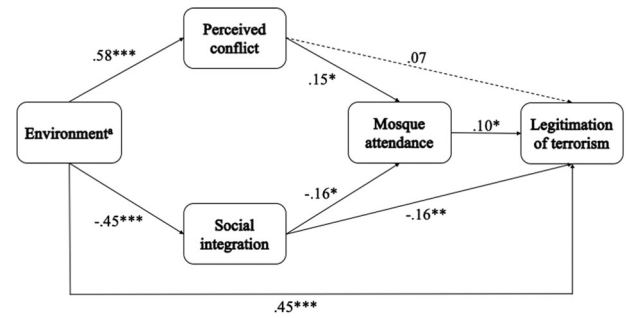

FIGURE 1 Results from path analysis. For clarity, covariance paths and error terms are not shown. Standardized coefficients are presented in the figure, while unstandardized coefficients are presented in text; [a]coded −1 for low-vulnerable environment and + 1 for high-vulnerable environment; *p < .05; **p < .01; ***p < .001

Results revealed that the hypothesized model fit the data well: χ^2 (df = 1, N = 328) = 3.16, p = .075, CFI = .99, TLI = .93, RMSEA = .08, SRMR = .02. We describe the results with unstandardized coefficients. The standardized coefficients for all paths, which were computed by standardizing the continuous variables before the analyses, are presented in Figure 1. Results indicated that environment was positively associated with perceived conflict (b = 1.18, SE = 0.09, p < .001) and terrorist legitimation (b = 1.26, SE = 0.19, p < .001), and negatively to social integration (b = −0.73, SE = 0.10, p < .001). Perceived conflict was positively associated with mosque attendance (b = .25, SE = 0.12, p = .040), but not to terrorism legitimation (b = 0.09, SE = 0.09, p = .321), while social integration was negatively associated with mosque attendance (b = −0.32, SE = 0.13, p = .014) and terrorism legitimation (b = −0.27, SE = 0.09, p = .002). Finally, mosque attendance was positively associated with terrorism legitimation (b = 0.08, SE = 0.04, p = .022).

The 95% confidence intervals of the indirect effects were obtained with 10,000 bootstrap resamples (Preacher & Hayes, 2008). As expected, results showed an indirect effect through social

TABLE 1 Means, standard deviations, and correlations involving all variables (N = 365)

	1	2	3	4	5	6	7	M	SD
Gender								0.57	0.50
Age	−.03							15.20	1.10
Nationality	−.11[*]	−.28[**]						0.56	0.50
Environment[a]	−.14[**]	−.28[***]	.85[***]					0.43	0.496
Mosque attendance	−.22[***]	−.04	.20[***]	.17[**]				3.25	2.08
Perceived conflict	−.13[*]	−.21[***]	.58[***]	.57[***]	.20[***]			2.49	1.02
Social integration	.17[**]	−.01	−.33[***]	−.40[***]	−.17[**]	−.36[***]		3.95	0.94
Legitimation of terrorism	−.09[+]	−.09[+]	.44[***]	.48[***]	.20[***]	.35[***]	−.35[***]	2.57	1.56

*p < .05.
**p < .01.
***p < .001; +p < .10.
[a]Coded −1 for low-vulnerable environment and +1 for high-vulnerable environment.

integration and mosque attendance ($b = 0.28$, $SE = 0.08$; 95% CI = [0.12, 0.44]), but not through perceived conflict and mosque attendance ($b = 0.19$, $SE = .12$; 95% CI = [−0.03, 0.44]).

7 | DISCUSSION

The main objective of this study was to study the interrelations between need, network, and narrative attending to the vulnerability of the environment. Building on the 3N model, we predicted that highly vulnerable environments would be associated with greater significance loss, which in turn would predict greater mosque attendance, and thus greater support for radical ideologies; that is, an indirect effect between the vulnerability of the environment and support for radical narratives through the loss of significance and the support of the network found in the mosque. To test our predictions, we carried out a study with a large sample of young Muslims in four environments where we evaluated perceived conflict and lack of social integration (significance loss), mosque attendance (network), and legitimization of terrorism (narrative).

The results supported our hypothesis. First, we found that the environment matters (Ng & Chow, 2017). Muslims living in vulnerable environments, perceived more conflict between them and Christians, reported having worse social integration, attended the mosque more frequently, and presented higher support for terrorist activities. Second, as predicted, the vulnerability of the environment predicted a greater loss of significance. Living in a high-vulnerability environment (Almería) predicted a greater perception of conflict and lack of social integration. Third, the loss of significance predicted mosque attendance. Those who perceived more conflict or express a lack of integration attended more frequently to the mosque. Finally, increased attendance at the mosque was a predictor of further legitimization of jihadist terrorism. Integrating these paths, we found that the vulnerability of the environment was a predictor of legitimation of terrorism through lack of social integration and mosque attendance. However, unexpectedly, we did not find an indirect effect through perceived conflict and mosque attendance. It seems that the lack of social integration is more important than perceived conflict in this context. One possible explanation is that mosque attendance helps the attendees feel integrated, but not all attendees share the perception of religious conflict.

Overall, the results are consistent with the 3N model. A vulnerable environment generates greater loss of significance, which in turn leads to more frequent mosque attendance, and greater support for radical narratives. As predicted by the 3N model (Kruglanski et al., 2019), the confluence of these factors predicted greater support for a radical narrative in the vulnerable environment.

The present study advances the 3N model of radicalization by exploring two factors that received little attention. To the best of our knowledge, few studies have explored the influence of the environment in relation to the 3N factors (e.g., Jasko et al., 2019). Our results suggest the environment can heighten individuals' risk of experiencing a loss of significance. Furthermore, while the impact of

some mosques in the processes of radicalization has been explored in other work (e.g., Campion, 2015; Silber & Bhatt, 2007), it has not been tested within the 3N framework. Our results confirm that mosques can be networks that support a radical narrative. This also means that through their ability to support and disseminate different narratives, mosques could also play an important role in delegitimizing radical narratives, thus preventing violent extremism.

In terms of preventing violent extremism, there are different programs and alternatives to minimize the risk of radicalization in mosques. Some of these alternatives include an Islamic feminist perspective and engage in reformist readings of the Quran, making teaching easily accessible to girls (Ghanem, 2017). Another alternative is to establish tight control over imams, for example, training them in Europe to ensure that they are well-integrated to society and their community (Yazbeck Haddad & Balz, 2008). Some of these measures are required and implanted in Spain, the context of the research. Specifically, in the Basque Country, an autonomous community in northern Spain, police authorities have demanded that the sermon to be preached in Spanish, and they offer information and resources to mosques about how to prevent radicalization (González, 2019). On the whole, the main recommendations include: (1) transparent government and financing of mosques; (2) imams with qualifications; (3) who know the native language; (4) the local political, social, legal, and economic systems; and (5) transmit democratic values and norms (Hart, 2009).

It is interesting that according to our path model, the high-vulnerable environment did not directly predict mosque attendance, but indirectly through loss of significance. Specifically, those who perceived to be in conflict with Christians and did not find social support in society are more likely to go to the mosque looking for it—a tendency that can tend to be exploited by recruiters (Trujillo & Moyano, 2019). Thus, the perception of conflict is not enough to support terrorism if this narrative is not socially validated (Kruglanski, Jasko, Webber, Chernikova, & Molinario, 2018).

Finally, several sociodemographic characteristics were related to perceived conflict and terrorism legitimation. Specifically, being male (vs. female) and foreigner (vs. Spaniard) was related to higher scores in perceived conflict, mosque attendance, and terrorism legitimation, and lower scores in social integration. Regarding gender, the results support the existence of gender roles. In some cases, women do not usually attend the mosque either because they are not allowed to, or there are not areas ready for them in the mosque. These gender differences may be related to greater sensation seeking tendencies usually displayed by young men (Schumpe, Bélanger, Moyano, & Nisa, 2020; Victoroff et al., 2010). Regarding nationality, one of the possible reasons is the custom of their countries and families who usually go to the mosque more frequently. However, another possible reason is the search for an identity or a group of peers in the host country. For (Roy, 2003), the acculturation of western countries together with difficulty to adapt and be accepted by their new peers brings about an identity crisis. Then, they suffer a cognitive opening (Wiktorowicz, 2004) while they become vulnerable to radical narratives and identities. Therefore, a recruiter could take advantage of

the situations and try to recruit these youths (Jasko & LaFree, 2020; Trujillo & Moyano, 2019).

It is also important to highlight the limitations of the present research. First, we did not take into consideration which neighborhood participants live in or the specific mosque they attend. These could be important environmental factors to take into consideration in future research. Second, we used perceived conflict and lack of social integration as proxies for loss of personal significance. Future research should rely on measures that directly evaluate this construct. Finally, as we did not conduct any experimental manipulation, we cannot make causal claims about the present findings. Longitudinal and experimental research should be conducted to make these inferences.

In conclusion, the present research provides empirical evidence supporting the notion that environments, loss of significance, and attendance to certain mosques can facilitate the support for terrorism. Therefore, it is essential to use models that include all these factors to understand better the radicalization process and develop counter-violent extremism measures more effectively. Hence, even if mosques can be used as vectors or radicalization, they can also constitute an opportunity to combat radicalization by promoting social cohesion and integration with the extended community.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

DATA AVAILABILITY STATEMENT

Data available on request from the authors.

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