

Quest for Significance and Violent Extremism: The Case of Domestic Radicalization

Katarzyna Jasko
Jagiellonian University

Gary LaFree
University of Maryland

Arie Kruglanski
University of Maryland

In the present study, we applied the quest for significance model of radicalization to explain the use of political violence. According to the model, when people experience loss of personal significance (e.g., due to social rejection, achievement failures, or abuse) the motivation to restore significance may push them toward the use of extreme means. We tested this prediction in a sample of individuals who have committed ideologically motivated crimes in the United States (n = 1496). We found that experiences of economic and social loss of significance were separate and positive predictors related to the use of violence by perpetrators of ideologically motivated crimes. We also found evidence that the presence of radicalized others (friends but not family members) in the individuals' social network increased their likelihood of using violence.

KEY WORDS: ideological extremism, homegrown terrorism, loss of significance, violence

“The Communists disdain to conceal their views and aims. They openly declare that their ends can be attained only by the forcible overthrow of all existing social conditions. Let the ruling classes tremble at a Communist revolution. The proletarians have nothing to lose but their chains. They have a world to win.” —Manifesto of the Communist Party

History is replete with examples of extreme political violence in the form of social revolutions, acts of terrorism, and violent protests, in which perpetrators justify their actions by invoking the socially desired values of justice, equality, or freedom that those acts purportedly serve. It sometimes seems that the crueler the means, the nobler the ends required for their justification. By some estimates, violence is on the decline in contemporary societies (Pinker, 2012). However, the everyday occurrence of ideologically motivated brutality, acutely exemplified recently by activities of the self-

proclaimed Islamic State (ISIS), as well as its appeal, illustrated by thousands of ISIS recruits worldwide, highlights its destructive potential and the danger it poses to global security (Ligon, Harms, & Derrick, 2015).

Relatedly, politically motivated violence on domestic targets—so called “homegrown” terrorist attacks—have received an enormous amount of recent attention in the wake of incidents like the 2011 attacks by far-right extremist Anders Breivik, who killed eight people in Oslo and shot another 69 at a summer camp in rural Norway (Rykkja, Læg Reid, & Fimreite, 2011); the Boston Marathon bombings of 2013 which killed three and injured more than 260 others (LaFree & Adamczyk, 2016); and the June 2016 mass shooting in a nightclub in Orlando, Florida that killed 49 and injured many others (Zezima, Zapotosky, Goldman, & Berman, 2016). Given the seeming spread of such attempts and their frightening potential, understanding the emergence and persistence of politically motivated violence presents a particularly important issue for both researchers and policymakers.

In the current article, we apply a social psychological perspective to examine a large sample of individuals who committed politically motivated crimes in the United States. Specifically, we are interested in determining the differences between extremists who engaged in ideologically motivated violence compared to those who were committed to similar goals but engaged only in nonviolent illegal behavior. Our analysis is informed by the quest for significance perspective (Kruglanski, Chen, Dechesne, Fishman, & Orehek, 2009; 2014), whereby, assuming the accessibility of a violence-justifying ideology, the occurrence of violence is expected to be more likely under psychological conditions that induce a search for personal significance and meaning in life. Based on this perspective, we developed a set of measures of the individual’s loss of significance and the strength of their ties to social networks committed to violent ideologies. Our analysis additionally controlled for a wide variety of other variables of apparent relevance to violence.

In the next section, we provide the theoretical background for our hypotheses. We then describe the data used for the analysis and the methods employed. Because our data set had a good deal of missing information on individual variables, we describe in some detail the methods we used for imputing missing values. We subsequently report bivariate findings, followed by multivariate logistic regression models. Finally, we discuss the conceptual and practical implications of the research.

Frustration of Psychological Needs and Violence

Given that most major religious and philosophical systems prohibit violence except under limited and very special conditions, the question of why individuals turn to violence has been a central concern in social psychology for decades. Thus, researchers have postulated links between violence and the frustration of important psychological needs such as the need to belong (Leary, Twenge, & Quinlivan, 2006), the need for membership in valued social groups (Fischer, Haslam, & Smith, 2010), the need for control, certainty, and meaning (Hogg & Adelman, 2013; Kay & Eibach, 2013; Pyszczynski et al., 2006).

With regard to the need to belong, multiple studies have shown that when participants were rejected or ostracized by others, they displayed aggression against those others (Buckley, Winkel, & Leary, 2004; Warburton, Williams, & Cairns, 2006), and even toward third parties not involved in the original rejection (Twenge, Baumeister, Tice, & Stucke, 2001; Warburton et al., 2006). A growing body of research has applied these general concepts specifically to those who use terrorist methods. For example, recent research on individuals who have engaged in lone acts of terrorism has shown that compared to the general population, those individuals were disproportionately likely to be socially isolated and divorced, separated, or widowed (Gill, Horgan, & Deckert, 2014; Gruenewald, Chermak, & Freilich, 2013).

Similarly, there is evidence that when important social identities are threatened, people often react with aggression and are more likely to support revenge (Fischer et al., 2010). Thus, suicide bombings against Americans in Iraq were perceived as justified by Jordanian and Lebanese respondents who felt that their countries and their religion were under threat from the United States (Chiozza, 2010) and perceived incompatibility between Arab and American values was the best predictor of support for fundamentalist violence such as killing of civilians (Sidanius, Kteily, Levin, Pratto, & Obaidi, 2015). Studies of collective narcissism, a form of insecure ingroup attachment related to feelings that the ingroup has been disrespected, showed that it is positively related to aggressive intergroup behavior (Golec de Zavala, Cichocka, Eidelson, & Jayawickreme, 2009). This particular mechanism was also confirmed in the context of terrorism so that the perception of being the victim of anti-Muslim discrimination was associated with support for suicide bombing in Muslim diaspora populations (Victoroff, Adelman, & Matthews, 2012).

Finally, research has demonstrated that when needs for meaning and certainty are threatened people are more likely to endorse extreme views and behaviors, including attitudes toward violence. For instance, when people felt uncertain they liked extreme protest groups more (Hogg, Meehan, & Farquharson, 2010), supported retaliatory aggressive state policies against outgroups (Maoz & McCauley, 2008), and were more willing to engage in radical social behavior (Hogg & Adelman, 2013). Simply reminding people of their mortality, interpretable as an ultimate frustration of the need for control and meaning in life, led to aggressive behavior against worldview-threatening others (McGregor et al., 1998) and increased support for suicide bombing (Pyszczynski et al., 2006; Pyszczynski, Motyl, & Abdollahi, 2009).

Taken together, these results suggest a link between a threat to important human motives (to belong, control, or understand) and support for and engagement in violent behavior against others, including support for ideologically motivated violence. However, the same variables that led to aggressive outcomes in some studies were related to benevolent and peaceful behaviors in others. For example, Simon, Troetschel, and Daehne (2008) found that when participants were uncertain as to whether they were accepted by a peace movement with which they were strongly identified, they donated more money to the cause as compared to when they were certain. A review of the literature on the consequences of suffering and adverse life events has shown that they may actually enhance the motivation to help other people, including outgroups, partly because such behavior restores a sense of meaning in life (Volhardt, 2009). It thus seems clear that the frustration of important social needs can be related to behaviors on both ends of the aggressive-benevolent spectrum.

Although the current research concentrates on the violent end of this continuum, we adopt a unifying framework that ultimately aims to explain both sets of behaviors. Specifically, we assume that the common theme across experiences of frustration and disappointment is the motivation to establish one's feeling of significance, a sense of meaning and mattering (Kruglanski et al., 2009, 2013, 2014). Frustration of this need can foster a powerful experience that overshadows alternate pursuits and redirects individual psychological resources to the singular quest for significance. We argue that the stronger the experience of insignificance, the stronger will be the motivation to engage in value-driven behavior, hence the greater the probability of using extreme means to achieve the goal of increasing significance. We elaborate on this logic in the next section.

Significance Quest Theory and Value-Driven Extremism

When people perceive themselves as rejected, divested of control, or as victims of injustice, they feel belittled and disrespected; consequently, they are motivated to restore their sense of self-worth and meaning. According to the significance quest theory (Kruglanski et al., 2009, 2013, 2014), the need for personal significance makes the occurrence of extreme behavior more likely. Propelled by

such needs, people should be more likely to fully commit to important goals and to suppress other concerns because the former are especially well-suited to restoring their sense of meaning and personal significance. As Erich Fromm (1973) expressed it: “Man needs an object of devotion to be the focal point of all his strivings It elevates him beyond his isolated existence, with all its doubts and insecurity, and gives meaning to life” (p. 260).

As a consequence of commitment to important goals, people should be more likely to use whatever means they perceive as necessary, regardless of how extreme those means are. Extreme behavior in the service of a lofty cause reflects considerable investment, because such behavior is counter normative and very often counter final (Kruglanski, Chernikova, Babush, Dugas, & Schumpe, 2015). For example, the readiness to kill other human beings for a cause requires overcoming the killing prohibition stressed by most philosophies and religions, as well as suppressing one’s own natural empathy for others’ suffering. Such means may be appealing to individuals for at least two reasons. First, extreme means may be perceived as especially useful for achieving a valued cause, as when fully committed members of terrorist organizations interpret a violent attack as a more effective way of achieving organizational goals than a peaceful protest. Second, it is also possible that extreme means are chosen because they unambiguously communicate a complete commitment to the cause. As research on interpersonal commitment has repeatedly shown (Le & Agnew, 2003), the greater one’s investment in a given pursuit, the greater one’s perceived commitment to its underlying purpose. Such clarity is especially sought by individuals in search of meaning and significance (Webber et al., 2016).

Importance of Radical Social Networks

As noted above, the motivation to restore significance and mattering can result in both pro-social and antisocial behavior. An important factor that determines the direction of extreme commitment is the social context in which individuals are embedded. Studies on social influence consistently show that people strongly care about the opinions of significant others; members of major groups to which they belong (Abrams & Hogg, 1990). Radical social networks can influence the intention to engage in violence through at least two mechanisms. First, radicalized others validate the mere idea of using violence as a legitimate means. When people perceive important others to be willing to engage in violent acts, such behaviors are perceived as less extreme and more normative, which can subsequently decrease objections against violence and make it easier to deviate from broad societal norms. Empirical research attests to the fact that when a violent act is socially validated, participants experience less guilt and distress than when it is questioned by others (Webber, Schimel, Martens, Hayes, & Faucher, 2013). Second, through intensive interactions others may influence the extremity of values and commitment to a particular cause, a mechanism demonstrated by research on group polarization (Isenberg, 1986). In support of this process, a study by Thomas, McGarty, and Louis (2014) has shown that priming extreme political action as a legitimate idea combined with social interaction increased support for such an action. Neither factor (priming, interaction) alone was sufficient to evoke the effect. It seems likely that having a network of others supporting extremist views satisfies both conditions as such a social context may both legitimize and exaggerate the appeal of radical behavior, including violence.

In the current study, we have a sample of individuals who have demonstrated their commitment to an extremist ideology and based on the arguments above, we expect that their willingness to use violence to further their cause will be influenced by the degree of violent radicalization present in their close social networks.

The Present Research

We argue that as people strive to find meaning in life and prove their worth to themselves and others, they will be more likely to engage in extreme, high-investment behaviors in service of important values. High among such values are preservation, promotion, and defense of one's ingroup and justice and truth. In the course of human history, any and all of these have been known to inspire extreme behaviors including the willingness to kill or be killed. We suggest that what extreme actions offer individuals is a restoration of threatened self-significance. As Anders Breivik (2011), the Norwegian extremist who killed more than 70 put it, "I have never in my life felt that I have done anything more meaningful than what I am doing now" (p. 854).

So far, empirical evidence for the role of loss of significance has concentrated on measures of attitudinal extremity. For example, a series of field studies conducted with samples of imprisoned Islamic militants in the Philippines, former militant members of the Liberation Tigers of Tamil Eelam (LTTE) in Sri Lanka, and a group of at-risk Muslim immigrants in southern Spain have demonstrated a relationship between feelings of shame and humiliation and endorsement of an extreme ideology. In addition, laboratory experiments conducted with U.S. college students confirmed the causal relationship between these variables (Webber et al., 2016). A study conducted in the context of actual violent attacks showed that the greater the number of significance quest-inducing circumstances, the greater the number of victims killed in suicide attacks (Webber et al., in press).

However, to our knowledge, there are no prior studies that directly tested the impact of threats to esteem and personal significance on the use of violence in a sample of homegrown extremists. In the present study, we aimed to address this gap. We hypothesize that the greater the intensity of loss of significance, as indicated by objective measures of economic failure, social detachment, and experience of trauma and abuse, the higher the chances that radicalized individuals will use violent means to pursue their ideological goals. As we suggested before, the mere presence of threats to personal significance does not determine whether individuals will try to regain significance through violent or prosocial behavior. However, in this study, we examined a sample of individuals who had already demonstrated their commitment to illegal behavior. Thus, in this particular case, we assumed that extremity would be indicated by increased violence. Moreover, following the arguments above, we also measure the strength of ties to radical social networks. We predict that the more radicalized the social context in which individuals are embedded, the greater the chances that they will engage in violent extremist action. In investigating these hypotheses, we control for other variables that in the past have been associated with political extremism.

Methods

Data

Data from this project were drawn from the Profiles of Individual Radicalization in the United States (PIRUS) data, collected and maintained by the START Center (National Center for the Study of Terrorism and the Response to Terrorism) at the University of Maryland. The PIRUS data are based on publicly available court documents, newspaper accounts, and published sources on 1,496 individuals drawn generally from three ideological groups: far left, far right, and radical Islamic.¹ We include all individuals who have radicalized within the United States to the point of committing ideologically motivated illegal violent or nonviolent acts, joining a designated terrorist organization, or associating with an organization whose leader(s) has

¹ For a more detailed description of the ideological categories included in the PIRUS database, see Jensen, James, and Tinsley (2015). The sample also includes a small number of cases that could not be unambiguously placed in one of these three ideological categories because they were focused on single issues.

or have been indicted of an ideologically motivated violent offense. We define these cases as “homegrown terrorism” in that the radicalization process must have begun and significantly advanced within the United States. By “significantly advanced” we mean that most or all of the individual’s radicalization occurred while they were residing in the United States. If there was no evidence that the individual ever resided outside of the United States, we assume that the case is domestic. We also assume that individuals who left the United States to attend training camps abroad were already radicalized when they made the decision to attend.

All data were collected between July 1, 2013 and June 3, 2014. To check the reliability of the coding, we took a 10% random sample of cases and coded each case twice using separate individuals. The research team used Krippendorff’s (2011) alpha procedure to assess the reliability of the coding procedures which resulted in an alpha score of .76, which is above the common standard for acceptable reliability (>.70).

Variables in the Model

Violence. Our dependent variable was whether the plot or extremist activity was violent or nonviolent. Examples of violent behavior included murder, assault, armed robbery, and kidnapping. Examples of nonviolent behavior included money laundering, providing weapons, and tax fraud in support of illegal ideologically motivated activities.

We had three groups of predictors: indicators of loss of significance, indicators of a radical social network, and a set of control variables. The details of the coding scheme for all of the variables are presented in Table 1.

Loss of significance. We distinguished between variables related to (1) achievement-related loss of significance, (2) relationship-related loss of significance, and (3) loss of significance related to traumatic/abusive experiences. We aimed to provide a conservative test of the theory, according to which all instances of threatened significance should produce similar effects. We coded all three sets of variables such that higher values indicated greater loss of significance.

The first set of predictors represented a loss of significance in an achievement domain. To that end, we used four variables that measured individual economic failure: whether an individual was unemployed at the moment of the extremist activity (Employment Situation), the regularity of their work history (Work History), the socioeconomic status of the individual at the moment of the extremist activity (Social Stratum), and whether they had failed to achieve their aspirations (Aspirations).

The next four variables measured loss of significance in the domain of social relations, as indicated by difficulties in finding and maintaining romantic relationships (Relationship Troubles), difficulties in finding and maintaining nonromantic relationships (Platonic Troubles), being marginalized or dismissed from social groups or organizations (Kicked Out), and experiencing a diminution in social standing (Loss of Social Standing).

Finally, we included three variables that measured the experience of abuse either in childhood or adulthood (Abused—Childhood, Abused—Adulthood) and a traumatic event that involved intense fear, helplessness, or horror (Trauma).

All of the variables related to loss of significance with the exception of three (Work History, Social Stratum, Aspirations) were dichotomous indicating either a presence (coded “1”) or absence (coded “0”) of a given attribute.

Radical social network. To measure individual’s exposure to a radical social network, we used three variables, which indicated to what extent a close friend, a family member, and/or a significant other were involved in radical activities themselves (Radical Friend, Radical Family, Radical Significant Other). All three variables were coded on a 4-point scale so that exposure to extremist violent activity was coded highest (3), nonexposure lowest (0), and exposure to legal activity (1) and to nonviolent illegal activity (2) intermediate.

Table 1. Coding and Descriptive Statistics

Variable	Coding	Distribution	N	% missing values
Violent	No = 0	38%	1496	0%
	Yes = 1	62%		
<i>Loss of Significance – Achievement</i>				
Employment Situation	Employed/student/retired = 0	88%	640	57%
	Unemployed = 1	12%		
Work History	Regularly employed = 0	60%	477	68%
	Serially employed = 1	25%		
	Underemployed = 2	5%		
	Long-term unemployed = 3	10%		
Social Stratum	High = 0	13%	679	55%
	Middle = 1	65%		
	Low = 2	22%		
Aspirations	Achieved aspirations = 0	28%	155	90%
	Did not have aspirations = 1	26%		
	Did not attempt/failed to achieve = 2	47%		
<i>Loss of Significance – Social Relations</i>				
Relationship Troubles	No = 0	78%	352	76%
	Yes = 1	22%		
Platonic Troubles	No = 0	88%	409	73%
	Yes = 1	12%		
Loss of Social Standing	No = 0	71%	205	86%
	Yes = 1	29%		
Kicked Out	No = 0	64%	211	86%
	Yes = 1	36%		
<i>Loss of Significance – Trauma and Abuse</i>				
Trauma	No = 0	52%	200	87%
	Yes = 1	48%		
Abused as Child	No = 0	65%	124	92%
	Yes = 1	35%		
Abused as Adult	No = 0	87%	119	92%
	Yes = 1	13%		
<i>Radical Social Network</i>				
Radical Friend	No = 0	3%	708	53%
	Legal activity = 1	16%		
	Nonviolent illegal activity = 2	22%		
	Extremist violent activity = 3	59%		
Radical Family	No = 0	42%	301	80%
	Legal activity = 1	13%		
	Nonviolent illegal activity = 2	17%		
Radical Significant Other	Extremist violent activity = 3	29%	325	78%
	No = 0	45%		
	Legal activity = 1	12%		
	Nonviolent illegal activity = 2	16%		
Extremist violent activity = 3	27%			
<i>Control Variables</i>				
Age		34.24 (13.30)	1280	14%
Gender	Female = 0	10%	1496	0%
	Male = 1	90%		
Education	Less than high school = 0	16%	551	63%
	High school = 1	21%		
	More than high school = 2	63%		
Minority status	No = 0	72%	1322	12%
	Yes = 1	28%		
Immigrant	No = 0	90%	1364	9%
	Yes = 1	10%		

TABLE 1. *Continued*

Variable	Coding	Distribution	<i>N</i>	% missing values
Military Experience	No = 0	81%	877	41%
	Yes = 1	19%		
Previous Criminal Activity	No previous activity = 0	47%	693	55%
	Previous (nonviolent) minor activity = 1	24%		
	Previous (nonviolent) serious activity = 2	12%		
	Previous violent crime = 3	17%		

Control variables. We included a wide variety of control variables with possible links to extremist violence: age, gender, race/ethnic minority status, immigrant status, and education level. We also added two variables indicating the presence of past activities that frequently include violence (Military Experience, Previous Criminal Activity).

Results

Analytical Strategy

We present descriptive statistics and bivariate correlations computed on the original dataset. In the next step, due to the large number of missing values, we used multiple imputation methods to replace missing data (Allison, 2001; Graham, 2009; Rubin, 1987). We performed logistic regression pooled across multiple datasets with imputed values to determine which of the predictors were significantly related to the use of violence.

Descriptive Statistics

Table 1 shows the descriptive statistics and number of nonmissing observations for each of the variables in the analysis. These results are based only on actual observations before missing values were imputed. With regard to our outcome variable it can be seen that the majority of individuals in the dataset (62%) committed a violent act.

Although it is difficult to evaluate the absolute level of significance loss due to a lack of a formal control group, according to Table 1 indicators of loss of significance in both achievement and social relationships domains were at low to moderate levels. Twelve percent of the entire sample was unemployed at the time they were involved in the event for which they were included in the database, and 15% were unemployed to some extent in the past. A strong majority of the sample (65%) were coded as belonging to a middle class. However, nearly half of the individuals were coded as having failed to achieve their aspirations or never attempted to achieve them. With regard to a loss of significance in the domain of social relationships, 22% of individuals experienced troubles in romantic relationships and 12% experienced platonic troubles. Twenty-nine percent had experienced a loss of social standing, and 36% were dismissed from a social group or organization. Forty-eight percent of individuals experienced some kind of a traumatic event in the past, 35% were abused as children, and 13% were abused as adults.

As concerns the composition of the social network, individuals in the sample more often had a friend engaged in violent extremist activity (59%) than a family member (29%) or a significant other (27%) that was so engaged.

Finally, with regard to control variables, individuals in the sample were relatively young ($M = 34.24$ years) and mostly men (90%). A minority of the sample (28%) comprised racial/ethnic minorities, and only 10% were immigrants. Most of the individuals (63%) had finished high school.

Table 2. Bivariate Analysis Between Loss of Significance, Radical Social Network, Control Variables, and Violence

	Violence
<i>Loss of Significance – Achievement</i>	
Employment Situation	.12**
Work History	.18***
Social Stratum	.20***
Aspirations ^a	.23**
<i>Loss of Significance – Social Relations</i>	
Relationship Troubles	.16**
Platonic Troubles	.19***
Loss of Social Standing ^a	.07
Kicked Out ^a	-.13
<i>Loss of Significance – Trauma and Abuse</i>	
Trauma ^a	.03
Abused as Child ^a	.15
Abused as Adult ^a	.20*
<i>Radical Social Network^b</i>	
Radical Friend	.30***
Radical Family	.20*
Radical Significant Other	.38***
<i>Control Variables</i>	
Age	-.27***
Gender	.02
Education	-.12**
Minority Status	.00
Immigrant	.01
Military Experience	-.01
Previous Criminal Activity	.10**

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

^aDue to large number of missing values, we did not impute values for these variables, and they were excluded from the multivariate analysis.

^bEntries for the variables in this group are *Phi* values. See rationale in the text.

One fifth had previous military experience. Almost half of the sample did not have a previous criminal record, and only 17% had committed a violent crime in the past.

Bivariate Analysis

Table 2 presents the bivariate analyses between predictors and the outcome variable in the nonimputed dataset. For categorical variables entries in the table are *Phi* coefficients. For ordinal variables the entries are *tau* coefficients. Each bivariate analysis was calculated only on the subset of cases for which we had nonmissing values for a given variable. Positive and significant coefficients for the measures of loss of significance indicate support for our hypotheses. We provide a full correlation matrix in the online supporting information.

Looking first at our four measures of achievement-related loss of significance, we see that all four are positively and significantly correlated with the occurrence of violent acts. These results suggest that among ideologically motivated individuals, those who experienced economic failures in their life were more likely to engage in violent extremism. The next four variables in Table 2 are measures of loss of significance in the domain of social relationships. In this case, three of the four variables are positively, and two are significantly related to participation in violent acts. Among ideologically motivated individuals, those who experienced troubles in their romantic or nonromantic relationships were more likely to turn to violent forms of extremist behavior. By contrast, loss of social standing and being

kicked out of an organization had no significant effect on whether individuals turn to violence. Three measures of loss of significance associated with trauma or abuse were positive, but only being abused as an adult was significantly related to the use of violence. In general, the results of the bivariate analysis were mostly in line with our theoretical expectations. Of 11 measures of loss of significance, all effects but one were in the expected direction (positive), and seven were statistically significant.

When the variables related to radical social networks were treated as ordinal—under the assumption of a monotonic relation between the degree of radicalization in the social network and the use of violence—only having a radical friend was significantly associated with the use of violence ($\tau = .19$, $p < .001$). However, when those variables were treated as categorical instead of ordinal, the results (*Phi* values) became significant for all three variables, suggesting that the relation between variables in this group (Radical Social Network) and violence is nonlinear. Closer investigation revealed that among individuals who did not have any social connections, or had social connections to others who engaged in violent extremism, the probability of violent actions was higher than the probability of nonviolent actions. However, individuals with connections to others who were engaged in illegal but nonviolent activity were less likely to engage in violent than nonviolent actions. We decided to examine this possibility more closely in the multivariate model by coding the contrasts between the categories so that we can compare nonviolent and violent illegal activity.

In our set of control variables, age and education were significantly and negatively related to violent outcomes. Older individuals and those with higher education were less likely to engage in violent acts. On the other hand, engaging in criminal activity in the past was positively associated with violence. We found no significant bivariate relations for gender, minority status, immigrant status, or military experience.

Limitations and Multiple Imputation

An important constraint of our analyses is the large amount of missing data, especially for the loss of significance variables (see Table 1). Simply eliminating cases with missing data would greatly reduce our sample size and make multivariate analysis difficult or impossible; nor is listwise deletion the recommended solution for handling missing data (Graham, 2009; Jelicic, Phelps, & Lerner, 2009).

To deal with the analytic limitations imposed by missing data, we apply a multiple imputation procedure (Allison, 2001; Graham, 2009; Rubin, 1987). In this approach, instead of filling in missing observations with one specific value, multiple datasets with a range of values are created. Each imputed data set is then analyzed separately, and the results of these separate analyses are pooled and averaged to obtain final coefficients. According to Graham, Olchowski, and Gilreath (2007), the optimal number of created datasets depends on the fraction of missing information. Given that in our dataset we had a large amount of missing data, we decided to create 25 datasets with imputed values. As we wanted to use as much information as possible while simultaneously providing valid estimates, we decided to exclude variables whose percentage of missing values was above 80%. We chose this threshold, because although still high it allowed us to carry out analyses with several key measures of loss of significance in the relationship domain. The variables for which missing data were over 80% and thus were excluded from the multivariate analysis were: Aspirations, Kicked Out, Loss of Social Standing, Trauma, Abused–Childhood, and Abused–Adulthood. However, following Graham (2009), we nonetheless included these variables in the imputation models so as to maximize the available information on each individual case. For the same reason, we included the outcome variable (Violence) in the imputation models, although we did not impute values for it. In a simulation study Moons, Donders, Stijnen, and Harrell (2006) showed that imputation of missing predictor values using the outcome is preferred over imputation without the outcome. Finally, because our variables were categorical, we rounded the imputed values to preserve the original scales.

Table 3. Logistic Regression for Violence

	Model 1 Loss of Significance		Model 2 Radical Social Network		Model 3 Control Variables	
	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio
Constant	-0.10 (0.13)		.70 (0.30)		1.38 (0.57)	3.95
<i>Loss of Significance^a</i>						
LoS Achievement	1.46 (0.42)	4.32**	1.40 (0.43)	4.07**	1.04 (0.48)	2.81*
LoS Social Relations (1)	0.36 (0.29)	1.43	0.44 (0.33)	1.56	0.55 (0.32)	1.74 [†]
LoS Social Relations (2)	0.90 (0.36)	2.45*	1.06 (0.42)	2.89*	1.24 (0.43)	3.45*
<i>Radical Social Network^b</i>						
Radical Friend (1)			-.31 (0.57)	0.73	-.27 (0.58)	0.77
Radical Friend (2)			-.80 (0.23)	0.45**	-.76 (0.24)	0.47**
Radical Friend (3)			-.86 (0.17)	0.42**	-.82 (0.17)	0.44***
Radical Family (1)			.14 (0.41)	1.15	0.20 (0.44)	1.22
Radical Family (2)			-.01 (0.29)	0.99	0.03 (0.31)	1.03
Radical Family (3)			-.11 (0.29)	.90	-.07 (0.30)	0.93
Radical Significant Other (1)			-.31 (0.39)	.74	-.50 (0.43)	0.61
Radical Significant Other (2)			-.43 (0.31)	.65 [†]	-.57 (0.33)	0.57 [†]
Radical Significant Other (3)			-.50 (0.28)	.61 [†]	-.57 (0.29)	0.57 [†]
<i>Control variables</i>						
Age					-0.02 (0.01)	0.98**
Gender					0.40 (0.36)	1.49
Minority Status					-0.04 (0.17)	0.96
Immigrant					0.07 (0.26)	1.07
Education (1)					-0.20 (0.25)	0.82
Education (2)					-0.44 (0.29)	0.64
Military Experience					-0.10 (0.22)	.91
Criminal Activity (1)					-0.08 (0.19)	.93
Criminal Activity (2)					0.12 (0.25)	1.13
Criminal Activity (3)					0.27 (0.28)	1.31

Note. [†] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

^a LoS Social Relations (1) compares individuals who experienced either platonic or romantic troubles with individuals who did not experience any relationship troubles. LoS Social Relations (2) compares individuals who experienced both platonic and romantic troubles with individuals who did not experience any relationship troubles.

^b Variables in this group were dummy coded. Variable (1) compares “No connections” to “Violent activity.” Variable (3) compares “Legal activity” to “Violent activity.” Variable (3) compares “Nonviolent illegal activity” to “Violent activity.”

Multivariate Analysis

To verify hypotheses regarding the quest for significance perspective, we next computed two indices of significance loss, both ranging from 0 to 1. The first index (LoS Achievement)—was computed by averaging across three variables related to loss of significance in an achievement domain (Employment Situation, Work History, Social Stratum). These variables were moderately correlated with each other (Employment Situation and Work History: $\tau = .43, p < .001$, Employment Situation and Social Stratum: $\tau = .28, p < .001$, Work History and Social Stratum: $\tau = .28, p < .001$; mean Cronbach’s alpha computed across all imputed samples = 0.64). The second index (LoS Social Relations) was computed by averaging two relationship variables (Relationship Trouble, Platonic Trouble; $\tau = .53; p < .001$). Because the latter index was computed using two dichotomous variables and could have only three values, we entered it in the model using two dummy-coded variables. Individuals with no problems noted either in romantic or platonic relationships were the reference category. Because of missing values of over 80%, we excluded the remaining measures of loss of significance.

We conducted a hierarchical logistic regression analysis on the multiple datasets with imputed missing values. The results of these analyses, pooled across all datasets, are presented in Table 3. We

begin with Model 1 that included only the two indices of loss of significance. In Model 2, we add measures of radical social networks with dummy codes for radical friends, family members, and significant others using a category “Extremist violent activity” as a referent category. In Model 3, we add demographic control variables and individual’s prior criminal and previous military experiences.

According to Table 3, both loss of significance indices were significant predictors of using violence. The LoS Achievement index was statistically significant indicating that among ideologically motivated individuals, those who have experienced an economic loss of significance were more likely to have engaged in violent extremism. For an individual who experienced loss of significance in the achievement domain, the odds of a violent versus nonviolent attack were 4.32 times higher than the odds of a violent attack for an individual who did not experience any loss of significance in this domain ($B = 1.46$, $SE = 0.42$, $\text{Exp}(B) = 4.32$, 95%CI [1.85, 10.09], $p = .001$). With regard to the second loss of significance index, having troubled relationships was associated with odds of a violent attack 2.45 higher than the odds of a violent attack among individuals who did not experience troubles in social relationships ($B = 0.90$, $SE = 0.36$, $\text{Exp}(B) = 2.45$, 95%CI [1.19, 5.07], $p = .016$).

In Model 2, we added three measures of radical social networks entered as categorical variables. As can be seen in the second column of the table, compared to the category “Extremist violent activity,” which served as a referent category, having a friend who was involved in an illegal but nonviolent activity ($B = -0.86$, $SE = 0.17$, $\text{Exp}(B) = 0.42$, 95%CI [0.30, 0.59], $p < .001$) as well as having a friend who was involved in a legal activity ($B = -0.80$, $SE = 0.23$, $\text{Exp}(B) = 0.45$, 95%CI [0.29, 0.70], $p = .001$) was significantly related to the decreased odds of committing a violent attack. However, the difference between the categories “Extremist violent activity” and “No friend” was not significant. The pattern of relation between violence and the radicalization of a significant other was similar to the variable Radical Friend, but it was only marginally significant. The extent of radicalization among family members was not significantly related to violence. Adding the measures of radical social networks to the analysis had no effect on the loss of significance indices, which remained statistically significant.

In Model 3, we added the demographic control variables to the analysis. Controlling for the demographic variables, our measures of loss of significance remained significant. Among the demographic variables, only age was significantly related to violence, such that older individuals were less likely to use violence ($B = -0.02$, $SE = 0.01$, $\text{Exp}(B) = 0.98$, 95%CI [0.97, 0.99], $p = .004$). For every year they aged, individuals were associated with a 2% decrease in the odds of using violence. We also added two types of activities that may involve violence, past military and criminal experience (coded as categorical variables). Neither variable was significantly related to our outcome variable nor did either substantially change the coefficients for our variables of interest.

Given the large number of missing values, we were concerned with estimating the extent to which our multiple imputation procedure affected the final conclusions. We therefore performed two additional sets of analyses. First, we analyzed the results under the assumption that all missing values are in effect indicators of nonpresence by recoding the missing values as “0.” This assumption is frequently made in research using open-source archival data (e.g., Gill et al., 2014; Gruenewald et al., 2013). After recoding the missing values, we computed the indices of loss of significance, and we performed the multivariate analysis described above. The pattern of results and the significance of our focal predictors remained identical to the main analysis. The second set of analyses was conducted on the dataset with imputed values. In these analyses, we limited the number of cases to those for which we had at least some information about the 11 variables in the loss of significance group. We assumed that such a subset would constitute a stronger sample as far as the amount of information was concerned. We conducted three analyses, which varied in how restrictive the threshold for inclusion was. On each subset of cases, we ran the multivariate analyses described above. Again, the pattern and the significance of results remained the same. We include the details of these analyses and their results in the online supplementary information.

Discussion

This article aimed to advance the understanding of violent political extremism by analyzing a sample of individuals who have committed ideologically motivated crimes in the United States. Our dataset covered a wide variety of cases, both in terms of individuals' ideological goals and the means they employed to pursue those goals. Ideological categories included far left, far right, and Islamic extremist; crimes ranged from participating in sit-ins and illegal protests to planting bombs in public buildings. Despite this diversity, our analysis shows that the use of violence can be in part predicted by a set of conditions that evoke a common psychological state of personal insignificance (Kruglanski et al., 2014). The data allowed us to investigate in depth two specific threats to individual feelings of insignificance: economic failure and social detachment. In addition, in a bivariate analysis we analyzed individuals' traumatic and abusive experiences as another factor that may elevate the need to regain significance.

In a sample of nearly 1,500 ideological extremists, we found a pattern of results that largely conformed to our predictions: Most of the indicators of loss of significance were positively related to the probability of political violence. At the bivariate level when individuals experienced failure at work, when they were rejected in social relationships, or when they were victims of abuse, they were more likely to resort to violence to pursue their ideological goals. These results are consistent with the quest for significance theory (Kruglanski et al., 2014), according to which variables that decrease the sense of personal significance should produce similar effects—that is, they should be related to a higher probability of using extreme (in this case violent) means.

The present findings also highlight the role of social networks in legitimizing violence (Asal, Ackerman, & Rethemeyer, 2012; Sageman, 2004). We proposed that the presence of radicalized others in the individuals' social milieu should increase their likelihood of using violence. Our results supported this assumption with respect to friends and to some extent with respect to significant others, but not with respect to family members. Results that we obtained suggest a more complex, nonlinear relation between radicalization of the social network and propensity to use violence. Specifically, compared to those with no connections or with connections to violent extremist friends, those who had connections to nonviolent friends were less likely to be violent. First, it could be that when a person does not have any social connections such a situation intensifies the feelings of insignificance, which subsequently increases the appeal of extreme means such as violence. This could explain the lack of difference in the use of violence between individuals without social connections and individuals with violent connections. Second, it is likely that nonviolent social connections serve as a protective factor, which prevents a person from engaging in violent extreme behavior. It would be useful to explore these possibilities systematically in future research. The observed difference between friends and family members' effects on violent extremism may suggest that people are simply more influenced by their peers than by their family. However, it is also possible that in addition to social influence, there could also be a self-selection process such that once individuals become interested in an extremist ideology they search for like-minded people. That in turn could further influence the extent of radicalization and strengthen a correlation between one's own radicalization and that of one's friends. Note that this mechanism does not apply to family members who are generally ascribed rather than selected.

To be sure, loss of significance on its own hardly ensures individual engagement in violent extremism (Kruglanski et al., 2013, 2014). Critical in this regard is the presence of an ideology that extols violence as a legitimate and effective means for attaining significance. Alternative ideologies might channel individuals' loss of significance in prosocial directions. Notably, however, the present dataset was restricted to ideologically motivated illegal acts. Thus, even though we did not explicitly assess the extent of individuals' exposure to violence-supporting narratives, their presence was implicit in the acts with which these individuals were associated. Theoretically, it is possible that given a

more diverse sample individual feelings of insignificance would be related to more extreme means, whether violent or nonviolent. At the same time we suggest that there might be something about violence that could be especially appealing to individuals searching for significance. Because of their counternormativity and greater visibility violent actions may signal stronger commitment to a cause and leave little uncertainty about the intentions of the actors. Due to these properties, violent means may offer a more direct route to earning significance, which may increase the attractiveness of violence to individuals searching for clear-cut and unambiguous actions (Webber et al., 2016).

This study is unique in that we used open-source data to examine psychological constructs, especially those related to threatened self-esteem, expected to affect politically motivated extremist behavior. As noted above, collecting valid data on individuals who radicalize to the point of illegal behavior poses fundamental challenges. This no doubt explains in part why much of the previous research on the pathways to extremist violence have been qualitative (Horgan, 2009; Kruglanski et al., 2009; Sageman, 2004; Wiktorowicz, 2004). By examining our hypotheses with a large database that included instances of real-life political violence, we contributed to the current literature by comparing individuals with varying radicalization processes. This research also extends the results obtained in laboratory studies on aggressive behavior, which typically focus on immediate reactions to the frustration of psychological needs. At the same time, the current study based on open-source data has clear limitations. Radical extremists are a difficult group to study with conventional social science methods like experiments or surveys. In response, many researchers rely on open-source documents such as newspaper accounts and court records to reconstruct the life histories of terrorist perpetrators (Freilich, Chermak, Belli, Gruenewald, & Parkin, 2014; Gill et al., 2014; LaFree & Dugan, 2007). While we have sought to be rigorous both in our data-collection and analysis methods, it is important to note that the data were collected retrospectively and although we used procedures to improve the reliability of the coding, the process by definition includes some level of subjectivity.

Moreover, because our data are not based on experiments or surveys, we needed to use proxy variables such as unemployment, low social status, and social rejection to measure key theoretical constructs related to the loss of significance. Although our findings are generally consistent with recent laboratory experiments (Webber et al., 2016), our nonexperimental design and lack of measures of mediating mechanisms is open to alternative explanations. Thus, it could be argued that the set of conditions included in our study, instead of increasing the motivation to prove one's significance, may simply decrease the motivation to conform to mainstream norms that forbid the use of violence. Although some studies demonstrated that social rejection may indeed increase impulsivity and reduce self-control (Baumeister, DeWall, Ciarocco, & Twenge, 2005), we believe that it is unlikely that this mechanism explains violence found in the current sample. Violent behavior in our sample was in most cases neither impulsive nor low-cost; rather, it usually demanded a substantial investment of resources from the actors. At the very least the extremist behavior undertaken by the individuals in our sample generally had profound effects on the lives of the perpetrators. It seems likely that instead of indicating low motivation to follow normative paths, it was instead high motivation to pursue a cause which drove the counter normative behavior for the individuals we studied.

Finally, although most of the findings were in line with our predictions, we should acknowledge one unexpected result. The variable indicating whether an individual was excluded from social groups and organizations turned out to be negative at the bivariate level. The predicted positive relationship between social exclusion and violence assumes that exclusion induced a feeling of insignificance. However, being expelled from an organization or group may deprive the individual of access to such powerful drivers of violent extremism as political ideology and social validation of violent means. Although admittedly a post hoc explanation, this account is consistent with a major premise of the quest for significance theory whereby motivation is only one component of violent extremism, which requires the additional presence of a salient ideological narrative and a compelling social network presence that supports aggression (Kruglanski et al., 2014).

Another limitation stems from the fact that due to the large amount of missing data we were unable to include a set of predictors related to trauma and abuse in our final model. Although we showed that two distinct sources of insignificance in the domains of achievement and social relations were independent predictors of violence future studies should investigate other life events that can evoke general feelings of significance. For instance, a recent article has shown that cultural marginalization and discrimination against the ingroup contributed to the feelings of insignificance among immigrants, which subsequently was related to greater support for radical views (Lyons-Padilla, Gelfand, Mirahmadi, Farooq, & van Egmond, 2016).

In sum, the present dataset offered a unique opportunity to test hypotheses drawn from quest for significance theory in the context of real-world instances of political violence. While by no means the only predictor of participation in violent extremism, the loss of significance perspective may provide insights into ways of reducing the risk that individuals will engage in this form of violent behavior. Given the threat of homegrown terrorist attacks around the world, understanding the emergence and persistence of politically motivated violence presents a particularly important issue for both researchers and policymakers.

ACKNOWLEDGMENTS

This research was supported by the National Institute of Justice through award number 2012-ZA-BX-0005) and the Science and Technology Directorate of the U.S. Department of Homeland Security through award number 2012-ST-061-CS-0001. The views and conclusions contained in this article are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Department of Justice or the U.S. Department of Homeland Security. Katarzyna Jasko's work on this project was supported by the Polish Ministry of Science and Higher Education (the Mobility Plus project 1115/MOB/13/2014/0). We would like to thank Marina Chernikova, Patrick James, Michael Jensen, Mariusz Trejtowicz, and David Webber for helpful comments on earlier drafts. Correspondence concerning this article should be addressed to Katarzyna Jasko, Institute of Psychology, Jagiellonian University, Ingardena 3, 30-060 Kraków, Poland. E-mail: katarzyna.jasko@uj.edu.pl

REFERENCES

- Abrams, D., & Hogg, M. A. (1990). Social identity, self-categorization and social influence. *European Review of Social Psychology, 1*, 195–228.
- Allison, P. D. (2001). *Missing data*. Thousand Oaks, CA: Sage.
- Asal, V., Ackerman, G., & Rethemeyer, R. K. (2012). Connections can be toxic: Terrorist organizational factors and the pursuit of CBRN weapons. *Studies in Terrorism and Conflict, 35*, 229–254.
- Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology, 88*, 589–604.
- Breivik, A. (2011). *An European declaration of independence*. Retrieved from <https://info.publicintelligence.net/Ander-BehringBreivikManifesto.pdf>
- Buckley, K. E., Winkel, R. E., & Leary, M. R. (2004). Emotional and behavioral responses to interpersonal rejection: Anger, sadness, hurt, and aggression. *Journal of Experimental Social Psychology, 40*, 14–28.
- Chiozza, G. (2010). How to win hearts and minds? The political sociology of the support for suicide bombing. Retrieved from https://www.exeter.ac.uk/media/universityofexeter/electdem/pdfs/giacomochiozzatraining/How_to_Win_Hearts_and_Minds.pdf
- Fischer, P., Haslam, S. A., & Smith, L. (2010). “If you wrong us, shall we not revenge?” Social identity salience moderates support for retaliation in response to collective threat. *Group Dynamics: Theory, Research, and Practice, 14*, 143–150.
- Freilich, J. D., Chermak, S. M., Belli, R., Gruenewald, J., & Parkin, W. S. (2014). Introducing the United States extremism crime database (ECDB). *Terrorism and Political Violence, 26*(2), 372–384.

- Fromm, E. (1973). *The anatomy of human destructiveness*. New York, NY: Holt, Rinehart, & Winston.
- Gill, P. Horgan, J., & Deckert, P. (2014). Bombing alone: Tracing the motivations and antecedents behaviors of lone-actor terrorists. *Journal of Forensic Sciences*, *59*, 425–435.
- Golec de Zavala, A. G., Cichocka, A., Eidelson, R., & Jayawickreme, N. (2009). Collective narcissism and its social consequences. *Journal of Personality and Social Psychology*, *97*(6), 1074–1096.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, *60*, 549–576.
- Graham, J. W., Olchowski, A. E., & Gilreath, T. D. (2007). How many imputations are really needed? Some practical clarifications of multiple imputation theory. *Prevention Science*, *8*, 206–213.
- Gruenewald, J., Chermak, S., & Freilich, J. D. (2013). Distinguishing “loner” attacks from other domestic extremist violence. *Criminology & Public Policy*, *12*, 65–91.
- Hogg, M. A., & Adelman, J. (2013). Uncertainty-identity theory: Extreme groups, radical behavior, and authoritarian leadership. *Journal of Social Issues*, *69*, 436–454.
- Hogg, M. A., Meehan, C., & Farquharson, J. (2010). The solace of radicalism: Self-uncertainty and group identification in the face of threat. *Journal of Experimental Social Psychology*, *46*, 1061–1066.
- Horgan, J. (2009). *Walking away from terrorism: Accounts of disengagement from radical and extremist movements*. London, United Kingdom: Routledge.
- Isenberg, D. J. (1986). Group polarisation: A critical review and meta-analysis. *Journal of Personality and Social Psychology*, *50*, 1141–1151.
- Jelicic, H., Phelps, E., & Lerner, R. A. (2009). Use of missing data methods in longitudinal studies: The persistence of bad practices in developmental psychology. *Developmental Psychology*, *45*(4), 1195–1199.
- Jensen, M., James, P., & Tinsley, H. (2015). *Profiles of individual radicalization in the United States: An empirical assessment of domestic radicalization*. Retrieved from https://www.start.umd.edu/pubs/PIRUS%20Fact%20Sheet_Jan%202015.pdf
- Kay, A., & Eibach, R. P. (2013). Compensatory control and its implications for ideological extremism. *Journal of Social Issues*, *69*, 564–585.
- Krippendorff, K. (2011). *Computing Krippendorff's Alpha-Reliability*. Retrieved from http://repository.upenn.edu/asc_papers/43
- Kruglanski, A.W., Bélanger, J. J., Gelfand, M., Gunaratna, R., Hettiarachchi, M., & Sharvit, K. (2013). Terrorism—a (self) love story: Redirecting the significance quest can end violence. *American Psychologist*, *68*(7), 559–575.
- Kruglanski, A.W., Chen, X., Dechesne, M., Fishman, S., & Orehek, E. (2009). Fully committed: Suicide bombers' motivation and the quest for personal significance. *Political Psychology*, *30*, 331–557.
- Kruglanski, A. W., Chernikova, M., Babush, M., Dugas, M., & Schumpe, B. (2015). The architecture of goal systems: Multifinality, equifinality, and counterfinality in means-end relations. *Advances in Motivation Science*, *2*, 69–98.
- Kruglanski, A. W., Gelfand, M. J., Belanger, J. J., Sheveland, A., Hettiarachchi, M., & Gunaratna, R. (2014). The psychology of radicalization and deradicalization: How significance quest impacts violent extremism. *Advances in Political Psychology*, *1*, 69–93.
- LaFree, G., & Adamczyk, A. (2016). The impact of the Boston Marathon bombings on public willingness to cooperate with the police. *Justice Quarterly*, *7*, 1–32.
- LaFree, G., & Dugan, L. (2007). Introducing the global terrorism database. *Terrorism and Political Violence*, *19*(2), 181–204.
- Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A metaanalysis of the investment model. *Personal Relationships*, *10*, 37–57.
- Leary, M. R., Twenge, J. M., & Quinlivan, E. (2006). Interpersonal rejection as a determinant of anger and aggression. *Personality and Social Psychology Review*, *10*, 111–132.
- Ligon, G. S., Harms, M., & Derrick, D. C. (2015). Lethal brands: How VEOs build reputations. *Journal of Strategic Security*, *8*, 27–42.
- Lyons-Padilla, S., Gelfand, M. J., Mirahmadi, H., Farooq, M., & van Egmond, M. (2016). Belonging nowhere: Marginalization and radicalization risk among Muslim Immigrants. *Behavioral Science & Policy*, *1*(2), 1–12.
- Maoz, I., & McCauley, C. (2008). Threat, dehumanization, and support for retaliatory aggressive policies in asymmetric conflict. *Journal of Conflict Resolution*, *52*, 93–116.
- McGregor, H., Leiberman, J., Greenberg, J., Solomon, S., Arndt, J., Simon, L., & Pyszczynski, T. (1998). Terror management and aggression: Evidence that mortality salience promotes aggression against worldview-threatening individuals. *Journal of Personality and Social Psychology*, *74*, 590–605.
- Moons, K. G. M., Donders, R. A., Stijnen, T., Harrell, F. E. (2006). Using the outcome for imputation of missing predictor values was preferred. *Journal of Clinical Epidemiology*, *59*(10), 1092–1101.

- Pinker, S. (2012). *The better angels of our nature: Why violence has declined*. New York, NY: Penguin.
- Pyszczynski, T., Abdollahi, A., Solomon, S., Greenberg, J., Cohen, F., & Weise, D. (2006). Mortality salience, martyrdom, and military might: The great Satan versus the axis of evil. *Personality and Social Psychology Bulletin*, 32(4), 525–537.
- Pyszczynski, T., Motyl, M., & Abdollahi, A. (2009). Righteous violence: Killing for god, country, freedom, and justice. *Behavioral Sciences of Terrorism and Political Aggression*, 1, 12–39.
- Rubin, D. (1987). *Multiple imputation for nonresponse in surveys*. New York, NY: Wiley
- Rykkja, L. H., Læg Reid, P., & Fimreite, A. L. (2011). Attitudes toward anti-terror measures: The role of trust, political orientation and civil liberties support. *Critical Studies on Terrorism*, 4, 219–237.
- Sageman, M. (2004). *Understanding terror networks*. Philadelphia: University of Pennsylvania Press.
- Sidanius, J., Kteily, N., Levin, S., Pratto, F., & Obaidi, M. (2015). Support for asymmetric violence among Arab populations: The clash of cultures, social identity, or counterdominance? *Group Processes & Intergroup Relations*, 19(3), 343–359. doi:10.1177/1368430215577224
- Simon, B., Troetschel, R., & Daehne, D. (2008). Identity affirmation and social movement support. *European Journal of Social Psychology*, 38, 935–946.
- Thomas, E. F., McGarty, C., & Louis, W. (2014). Social interaction and pathways to political engagement and extremism. *European Journal of Social Psychology*, 44(1), 15–22.
- Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of Personality and Social Psychology*, 81, 1058–1069.
- Victoroff, J., Adelman, J., & Matthews, M. (2012). Psychological factors associated with support for suicide bombing in the Muslim diaspora. *Political Psychology*, 33(6), 791–809.
- Vollhardt, J. R. (2009). Altruism born of suffering and prosocial behavior following adverse life events: A review and conceptualization. *Social Justice Research*, 22, 53–97.
- Warburton, W. A., Williams, K. D., & Cairns, D. R. (2006). When ostracism leads to aggression: The moderating effects of control deprivation. *Journal of Experimental Social Psychology*, 42(2), 213–220.
- Webber, D., Babush, M., Schori-Eyal, N., Kruglanski, A. W., Moyano, M., Hetiarachchi, M., . . . Gunaratna, R. (2016). The road to extremism: How significance-loss based uncertainty fosters extremism. *Manuscript submitted for publication*.
- Webber, D., Klein, K., Sheveland, A., Kruglanski, A. W., Gelfand, M. J., Brizi, A., & Merari, A. (2015). Divergent paths to martyrdom and significance among suicide attackers. *Terrorism and Political Violence*.
- Webber D., Schimel, J., Martens, A., Hayes, J., & Faucher, E. H. (2013). Using a bug-killing paradigm to understand how social validation and invalidation affect the distress of killing. *Personality and Social Psychology Bulletin*, 39, 470–481.
- Wiktorowicz, Q. (2004). *Islamic activism: A social movement theory approach*. Bloomington: Indiana University Press.
- Zezima, K., Zapotosky, M., Goldman, A., & Berman, M. (2016). Orlando gunman said he carried out attack to get “Americans to stop bombing his country,” witness says. *Washington Post*. https://www.washingtonpost.com/news/post-nation/wp/2016/06/14/fbi-director-orlando-shooting-probe-also-looks-backward-into-agency-files-on-shooter/?utm_term=.f89a81819caf

Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Table 1. Correlation Matrix

Table 2. Analyses on the Subsets of Cases

Table 3. Analysis on the Dataset with Missing Values Coded as “0”