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The Terrorist Radicalization Assessment Protocol (TRAP-18) was utilized to code 2 nonrandom samples of convenience: Subjects who had carried out a lethal terrorist attack in North America between 1993 and 2016 ($n = 33$), and subjects who were identified as a national security concern, and were either successfully risk managed for at least 2 years, or determined upon investigation to have no intent to mount an attack, were not risk managed, and did not mount an attack during the same period of time ($n = 23$). The no attack sample was gathered from 2 metropolitan areas in the United States and Canada through law enforcement and mental health counterterrorism investigations. Half the TRAP-18 indicators were found to be significantly different between the samples with medium to large effect sizes ($\phi = .35–.70$). The proximal warning behaviors of pathway, identification, energy burst, and last resort were significantly more frequent among the attackers, and directly communicated threat was significantly less frequent. The distal characteristics of ideological framing, changes in thinking and emotion, and creativity and innovation were more frequent among the attackers, and mental disorder was significantly less frequent. The retrospective results are interpreted in the context of other TRAP-18 research, and in relation to other empirical findings concerning lone actor terrorists.

Public Significance Statement
The study compares a group of individual terrorists who mounted an attack with a group of individuals who posed a national security concern but did not attack. The instrument for comparison was the Terrorist Radicalization Assessment Protocol (TRAP-18). The instrument worked well in distinguishing the two groups, and should help professional counterterrorism investigators and law enforcement.

Phineas may have been the first lone actor terrorist. According to the Bible (Numbers 25:1–9), he ran a spear through an Israelite man and a Midianite woman while they slept together, believing that their sexual relationship, and their progeny, could threaten the survival of the Jewish people. He supposedly ended God's plague by doing so, and was commended by God for stopping the Israelites' fall into idolatry. Several thousand years later Phineas' deeds were advanced by Hoskins (1990) to justify violence against interracial couples, and became the ideological framework for the Phineas Priesthood, a largely illusory domestic terrorism group in the 1990s composed of four men who carried out bank robberies in the Pacific Northwest. Terrorism—political violence against noncombatants—continues unabated.

Between September 12, 2001[1] and December 31, 2016, there were 85 attacks in the United States by individual terrorists from both the extreme right and jihadist ideologies, accounting for the death of 225 individuals (U.S. Government Accountability Office, 2017).[2] Fatalities resulting from attacks by far right wing violent extremists have exceeded those caused by radical Islamist violent extremists in the last decade. Of the 85 violent extremist incidents that resulted in death since September 12, 2001, far-right-wing violent extremist groups were responsible for 62 (73%) incidents, whereas radical Islamist violent extremists were responsible for 23 (27%). However, the number of fatalities over this 15-year period of time between the two ideological domains was almost identical, primarily because of the Pulse Nightclub attack in Orlando, Florida, in 2016, which killed 49 people. Most of these attackers were individual terrorists in the sense that they were inspired by a particular ideology, but acted autonomously to any particular organization and alone.

Other research groups have confirmed that lone actor or "homegrown" terrorism has increased in frequency since 9/11, as group-based terrorism and coordination of attacks from abroad has decreased (Bucci, Caragano, & Zuckerman, 2012; Gilkes, 2016; Pape et al., 2017; Spaaij, 2012). As Hardcastle noted, "the process of radicalization usually begins at home and often ends there as well" (V. Hardcastle, personal communication, April, 2018).

In a related project, Jensen and LaFree (2016) found that despite an increase in lone actor terrorism, it is a distinctly social process, online environments may be speeding up the radicalization process, and individuals were more open to radicalization when they experienced trauma or a deep sense of community marginalization. Mental disorders also appeared to be linked to a greater risk of violent behavior. The greater frequency of certain mental disorders among lone actor terrorists when compared with group terrorists has been supported by additional research (Corner & Gill, 2015; Gill & Corner, 2017), whereas others have asserted that the term "lone wolf" is a misnomer—a position with which we agree—because the moniker implies that the offender possesses characteristics of stealth, skill, and solitude that these individuals often do not possess. They are often mentally disordered individuals who foster ties with online radical milieus which maintain their motives and support their limited capabilities (Schuurman et al., 2017).

The presence of lone actor terrorists compels the need for threat assessment and management of such subjects of concern by law enforcement and counterterrorism agencies. Several instruments have been advanced, among them the Terrorist Radicalization Assessment Protocol (TRAP-18; Meloy, 2017), which is the focus of this study. Unlike sev-

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[1] Almost 3,000 people died in New York, Washington, and Pennsylvania on Sept 11, 2001 in a highly coordinated terrorist attack by a group under the command and control of Al Qaeda, led by the jihadist Osama bin Laden—the largest terrorism attack in the history of the United States.
[2] These data are from the Extremist Crime database (ECDB) managed by the University of Maryland National Consortium for the study of terrorism and responses to terrorism (START). The database is composed of far right extremists, radical Islamists, and far left extremists focused on the environment and animal rights. The far right includes white supremacists and antigovernment militias.

eral other instruments such as the VERA (Pressman, 2009) and the ERG 22+ (Lloyd & Dean, 2015), the TRAP-18 was intentionally designed to assess for risk of targeted or intended terrorist violence in community subjects—regardless of their particular ideology—to assist in prioritizing cases for investigators by coding for both proximal and distal indicators. The model advances the theory that there are patterns (Koffka, 1921) of behavior that suggest a need for only active monitoring of a case (the distal characteristics) and patterns of behavior which compel the need for more intensive and active risk management (the proximal warning behaviors). The scientific discipline underlying the TRAP-18 is threat assessment and management: the identification, assessment, and management of subjects who intend to carry out an act of targeted violence (Meloy & Hoffmann, 2014), most easily discerned by focusing upon fact-based behaviors (Fein & Vossekuil, 1999).

Research on the TRAP-18 has supported its interrater reliability, and its criterion, construct, discriminant, and postdictive validity in studies of lone actor terrorists in the United States and Europe (Challacombe & Lucas, 2018; Meloy, Roshdi, Glaz-Ocik, & Hoffmann, 2015; Meloy & Gill, 2016). What continues to be needed are more postdictive validity studies, as well as retrospective comparison studies. Such work will test the use of the TRAP-18 indicators as specific risk factors or correlates of intended violence among ideologically motivated offenders (Monahan, 2012, 2017). In fact, there appear to be few such studies of individual terrorists with comparison or control groups anywhere, severely limiting the use of identified characteristics as predictors of risk. This is a comparative study utilizing the TRAP-18 as the measurement instrument.

Method

This is a retrospective study of two nonrandom samples of convenience: North American subjects who engaged in a lethal terrorist attack, and subjects of concern for such an attack who appeared to lack clear intent upon investigation or were judged a threat and then actively risk managed.

Measurement

The TRAP-18 is a structured professional judgment instrument composed of 8 proximal warning behaviors and 10 distal characteristics (Meloy, 2017). The instrument has been shown to have excellent interrater reliability (Meloy, Roshdi, et al., 2015; Challacombe & Lucas, 2018) and criterion validity on samples of individual terrorists and autonomous terrorist cells (Meloy & Gill, 2016; Meloy, Habermeyer, & Guldimann, 2015). Its growing construct validity has been extended through its operational usefulness in the idiographic and retrospective analysis of a number of cases of lone actor terrorism (Böckler, Hoffmann, & Zick, 2015; Böckler, Hoffmann, & Meloy, 2017; Erlandsson & Meloy, 2018; Meloy, Habermeyer, et al., 2015; Meloy & Genzman, 2016). The warning behaviors—the first eight indicators on the TRAP—have been shown to have discriminant validity in separating school attackers from other subjects of concern with no intent to attack (Meloy, Hoffmann, Roshdi, & Guldimann, 2014), and the TRAP-18 *in toto* was successful in postdicting violence with 76% accuracy within a sample of Sovereign Citizens, a domestic violence terrorist group in the U.S. (Challacombe & Lucas, 2018). The 18 indicators are shown in Table 1.

Definitions of each of the indicators are available in a number of publications (Meloy, Hoffmann, Guldimann, & James, 2012; Meloy & Yakeley, 2014; Meloy, Habermeyer, et al., 2015; Meloy & Gill, 2016) and the TRAP-18 user's manual (Meloy, 2017), and will not be repeated here. Many of the definitions, however, are discussed in detail in the discussion section of this study.

Hypothesis

The null hypothesis was that there would be no significant difference on any of the TRAP-18 indicators between the terrorist attack group and the no attack group. This is a disconfirming hypothesis which challenges the authors' theory that the TRAP-18 indicators would discriminate between attackers and nonattackers, and would be a useful structured professional judgment instrument for threat assessors. Because this is only the sec-

Table 1

Proximal Warning Behaviors and Distal Characteristics of the Terrorist Radicalization Assessment Protocol (TRAP-18; Meloy, 2017)

Proximal warning behaviors
   Pathway
   Fixation
   Identification
   Novel aggression
   Energy burst
   Leakage
   Last resort
   Directly communicated threat
Distal characteristics
   Personal grievance and moral outrage
   Framed by ideology
   Failure to affiliate with extremist or other group
   Dependence on the virtual community
   Thwarting of occupational goals
   Failure of sexually intimate pair-bonding
   Changes in thinking and emotion
   Mental disorder
   Creativity and innovation
   History of criminal violence

ond comparative study utilizing the TRAP-18, it is most judicious in our opinion to not advance specific hypotheses of significance.

Statistical Analysis

Descriptive data were computed. Inferential statistical analysis included comparison of the frequency of each indicator within each group utilizing chi square significance testing and determination of effect size, whether positive or negative, utilizing phi coefficients. Both odds ratios and confidence intervals for those ratios were also calculated when statistically possible, that is, no cell frequencies were zero.

When effect sizes are negative, odds ratios will be below 1. The odds ratio, its standard error, and 95% confidence interval were calculated according to Altman (1991) based on 2×2 tables to measure the strength of the association between the presence of an indicator (i.e., TRAP-18 item) and the occurrence of an event (i.e., attack or not). If the confidence interval for the statistic includes a value of 1, one cannot assume that the indicator is associated with attack or not. The odds ratio can be used as an estimate of relative risk when the occurrence of the factor is rare.

Sample Selection

The terrorist attack sample was composed of 33 lone actor terrorists: subjects who committed a politically motivated lethal or near lethal attack against noncombatants in North America between 1993 and 2016. Most subjects within this sample had committed an act of ideologically motivated violence in which at least one person other than the terrorist was killed, and none were under the command and control of an organized terrorist group.[3] In one case (McVeigh and Nichols), both subjects were members of the same autonomous terrorist cell. In three other cases (Tsarnaev, Miller, and Muhammad), the subjects were one member of a two-member cell composed of a younger brother, a girlfriend, and an "adopted" son, respectively. This was a nonrandom sample of convenience, and cases were selected that were within the START database and known to the authors, as well as new cases which occurred during the course of this study (2014–2018). Cases were included if there were sufficient open source data to code the TRAP-18 variables as either present or absent. TRAP-18 indicators were coded by those who were trained on the instrument by Dr. Meloy, either in person or through online training available at gifrinc. com. In many cases, primary source material was located through Internet searches, and included criminal investigative reports, trial transcripts, psychiatric and psychological reports, and postconviction published studies of the terrorist attackers. J. Reid Meloy consulted with the defense, prosecution, or law enforcement in five of the attack cases; and in several other additional cases, the TRAP-18 was coded by an investigator on the case who provided the data to the research team. J. Reid Meloy worked with Ms. Genzman in the coding of the rest of the terrorist attackers and any questions were resolved through analysis of each subject's behavioral patterns and their goodness of fit with the 18 indicator descrip-

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[3] The motivations for terrorism are complex (Gill, 2015). However, in all subjects there was evidence that ideology was a motivation. The ideologies fell into one of three categories: extreme right-wing ethnic nationalist, jihadist, or single issue (usually anti-abortion; see Table 2).

tions in the manual (Meloy, 2017) until consensus was reached.

The no attack sample was composed of 23 subjects selected from the caseloads of two major metropolitan law enforcement and mental health agencies, one in Canada ($n = 10$, the no intent cases) and one in the United States ($n = 13$, the risk managed cases), between 2012 and 2016. The Canadian sample was coded by Detective Amat and Dr. Morgan and consensus was reached on each of the indicators through the same procedure noted above. The United States sample was coded by R. Meloy and Maria Martinez, and consensus was reached on each of the indicators. The two metropolitan samples were composed of subjects who came to the attention of law enforcement and/or mental health and were deemed of sufficient concern to be investigated as a terrorist threat. Upon investigation it was determined that there was no intent, or the case needed to be actively risk managed. All cases were successfully risk managed for at least a 2-year period or remained closed without incident during this study. Closed meant that there was no further investigation of the subject, and the same subject did not commit a subsequent act of terrorism. Risk management included a range of responses: face-to-face threat assessment; collateral interviews with family members, peers, or school personnel; review of records (employment, military, driving, criminal, residence, police incidents); civil commitment, release, and discharge planning; safety plan development for school, work, home, and the community at large; social media monitoring; obtaining signed consents to communicate with the subject's psychotherapist, psychiatrist, or case manager to monitor progress in treatment; ensure compliance with interventions or recommendations established during suspension, expulsion, or work termination; and/or maintain the case as an open file, usually indefinitely. In two of the comparison cases there was arrest and prosecution. In at least three other cases there had been arrest, prosecution, and time served in custody before return to the community and CVE (countering violent extremism) involvement. In one case the subject committed suicide. In all other cases the subjects remained in the metropolitan jurisdiction of the investigators.

Results

The attack subjects are listed in Table 2. The demographic comparisons between the two groups are listed in Table 3. The results of the TRAP-18 comparative statistical analysis of the attack and no attack samples are in Tables 4 and 5.

The Attackers

The attackers in Table 2 are a large representative sample of individuals who have carried out successful lone actor terrorist attacks in North America between 1993 and 2016. The attacks occurred between 1993 and 1999 ($n = 6$), 2000 and 2009 ($n = 13$), and 2010 and 2016 ($n = 14$). They are a mixture of jihadists ($n = 9$), right-wing extremists ($n = 16$), and single-issue terrorists ($n = 8$). The right-wing extremists usually combined antigovernment, anti-Semitic, racist, pro-gun, separatist, and ethnic (white) nationalist ideologies. The single issue group were mostly antiabortionists ($n = 4$), but also motivated by antiwhite ($n = 1$) and pro-gay ($n = 1$) beliefs. All the attackers were male, and the average age was 39 years old ($SD = 15.8$; range $= 15–88$). Their weapons of choice were firearms ($n = 26$), either explosive or incendiary devices ($n = 4$), automobiles ($n = 2$), an airplane ($n = 1$), and fake anthrax ($n = 1$).[4] Number killed ranged from 0–168. Only three cases resulted in no deaths: Waagner, Taheri-azar, and Corkins. The attacks occurred across the United States ($n = 31$) and Canada ($n = 2$). Fifty-eight per cent targeted individuals with a different ethnicity than their own.

Demographic Comparison With Nonattackers

The demographic variables between the attackers and the comparisons showed similarities and some significant differences. The groups were not matched on any demographic variables. Both groups were virtually all males, with only one female across the total sample. The mean age of the groups, however, was signifi-

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[4] One terrorist used both an incendiary device and a firearm (Monfort).

Table 2
North American Attack Subjects (n = 33)

Name	Date	Location	Wounded	Killed	Method	Ideology
Colin Ferguson	12/7/93	NYC, NY	19	6	gun	Single issue
Paul Hill	7/29/94	Pensacola, FL	0	2	gun	Single Issue
Terry Nichols	4/19/95	Fed Bldg, OK	650	168	bomb	Ethnic Nat
Timothy McVeigh	4/19/95	Fed Bldg, OK	650	168	bomb	Ethnic Nat
Benjamin Nathaniel Smith	7/2–4/99	IL and IND	10	2	gun	Ethnic Nat
Buford Furrow	8/10/99	Los Angeles, CA	5	1	gun	Ethnic Nat
Ronald Taylor	3/1/00	Pittsburgh, PA	3	2	gun	Ethnic Nat
Richard Baumhammers	4/28/00	Pittsburgh, PA	1	5	gun	Ethnic Nat
Clayton Lee Waagner	10/15/01, 11/5/01	Ohio, Illinois, East Coast	0	0	hoax-anthrax	Single issue
Hesham Mohamed Hadayet	7/4/02	LAX, CA	4	2	gun	Jihad
John Allen Mohammed	10/1/02	Washington, DC	0	10	gun	Jihad
Reza Taheri-azar	3/3/2006	Chapel Hill, NC	9	0	car	Jihad
Keith Luke	1/21/09	Boston, MA	2	1	gun	Ethnic Nat
Scott Roeder	3/31/09	Witchita, KS	0	1	gun	Single issue
Richard Andrew Poplawski	4/4/2009	Pittsburgh, PA	1	3	gun	Ethnic Nat
Abdulhakim Muhammad AKA Carlos Bledsoe	6/1/2009	Little Rock, AK	1	1	gun	Jihad
James von Brunn	6/10/09	Washington, DC	0	1	gun	Ethnic Nat
Christopher Monfort	10/31/09	Seattle, WA	1	1	bomb, gun	Single issue
Nidal Malik Hasan	11/6/09	Ft. Hood, TX	31	13	gun	Jihad
Joseph Stack	2/18/10	Austin, TX	Unknown	2	airplane	Single issue
Wade Michael Page	8/5/12	Discovery, WI	4	6	gun	Ethnic Nat
Richard Bain	9/4/2012	Quebec, Canada	1	1	gun	Ethnic Nat
Floyd Lee Corkins	2/7/2013	Washington, DC	1	0	gun	Single issue
Tamarlan Tsarnaev	4/15/13	Boston, MA	264	3	bomb	Jihad
Paul Ciancia	10/1/2013	LAX, CA	6	1	gun	Ethnic Nat
Frazier Glenn Miller	4/13/2014	Overland Park, KS	0	3	gun	Ethnic Nat
Jerad Miller	6/5/14	Las Vegas, NV	0	5	gun	Ethnic Nat
Eric Frein	9/14/14	Scranton, PA	1	1	gun	Ethnic Nat
Martin Couture Rouleau	10/20/2014	Quebec, Canada	1	1	car	Jihad
Dylann Roof	6/17/2015	Charleston, SC	3	9	gun	Ethnic Nat
Muhammed Abdulazeez	7/16/2015	Chattanooga, TN	2	6	gun	Jihad
Robert Dear	11/27/2015	Colorado Springs, CO	9	3	gun	Single issue
Omar Mateen	6/12/2016	Orlando, FL	53	49	gun	Jihad

cantly different. Average age of the attackers was 39 years and nonattackers was 27 years ($SD = 11$; *range* 15–58), with a total mean age across the groups of 34 years.

Thirty-six per cent of the attackers were single (36%) versus 64% of the nonattackers, resulting in a significant difference with a large effect size ($\phi = .53$). Fifty-three per cent of the attackers were unemployed or underemployed, and 47% of the nonattackers were unemployed. Forty-six per cent the attackers had no biological children, whereas 54% of the nonattackers were childless. Half the attackers (47%) had attended some college, a comparable figure with the nonattackers (52%).

The TRAP-18 Indicators

Five warning behaviors and four distal characteristics were significantly different between the groups.

Pathway. This proximal warning behavior was significantly more frequent among the attackers, and the effect size—the strength of the difference—was large ($\phi = 0.70$). Eighty per cent of the attackers were coded on this variable, whereas only 20% of the nonattackers were.

Identification. In this study, identification significantly differentiated attackers from nonattackers with a medium effect size ($\phi = .35$). Sixty-five per cent of the terrorists were coded

Table 3
Comparison Between Attacker and Nonattacker Subjects on Demographic Characteristics

Demographic	Category	Attacker		Nonattacker				φ
		Freq.	%	Freq.	%	n	χ^2	effect size
Gender	Male	33	60	22	40.7	55	1.46	−.162
	Female	0	0	1	100	1		
Marriage status	Single (never married)	12	36.4	21	63.6	33	14.56**	.529
	Married	9	100	0	0	9		
	Divorced or separated	8	80	2	20	10		
	Widowed	0	0	0	0	0		
Employment at attack	No employment	16	53.3	14	46.7	30	6.77	.380
	Underemployment, given education	4	66.7	2	33.3	6		
	Full employment	8	88.9	1	11.1	9		
	Student	0	0	2	100	2		
Children	No biological	16	45.7	19	54.3	35	7.23**	−.380
	One or more biological	13	86.7	2	13.3	15		
Education	Some high school, incomplete	3	33.3	6	66.7	9	12.72*	.544
	High school, complete	6	100	0	0	6		
	Some college, incomplete	10	47.6	11	52.4	21		
	College, complete	5	100	0	0	5		
	Postgraduate, complete	1	100	0	0	1		
	Doctorate, complete	1	100	0	0	1		
Ethnicity in relation to targets	Same ethnicity	10	76.9	3	23.1	13	.07	.042
	Different ethnicity	19	73.1	7	26.9	26		

* $p < .05$.   ** $p < .01$.

on identification, whereas 35% of the comparison group were ($OR = 11.25$, 95% CI [1.24, 101.76]).

Energy burst. In this study, 74% of the attackers evidenced energy burst, whereas only 26% of the nonattackers did. The effect size was medium ($\phi = .48$, $OR = 10.19$, 95% CI [2.30, 45.04]).

Last resort. Seventy-nine per cent of the attackers evidenced this warning behavior compared with 21% of the nonattackers with a large effect size ($\phi = .57$, $OR = 16.10$, 95% CI [3.57, 72.68]).

Directly communicated threat. In this study the nonattackers were *more* likely to threaten the target than the attackers (82% versus 18%) with a medium effect size ($\phi = −.46$, $OR = 0.08$, 95% CI [0.02, 0.44]).[5]

Ideological framing. The first distal characteristic which was more frequent among the attackers when compared with the nonattackers was ideological framing (100% vs. 61%), a difference with a large effect size ($\phi = .52$).

The ideological framing of some of the subjects within the nonattack comparison group, although less frequent and often somewhat inchoate, is instructive:

Case 1. Father is the head of a white supremacy group, subject becomes radicalized, and joins his father.

Case 2. Came to the United States and felt rejected by American society; developed a grievance against the American government; expulsion from university intensifies grievance, and he increases research and involvement with Al Qaeda. Leaves the United States for Yemen, and returns 18 months later prepared to attack. Detained at the airport, placed on a psychiatric hold, begins to be risk managed. Leaves for another state, and a couple of months later dies by suicide while holding people hostage in a bank.

Case 3. Attending medical school in Iran, close to graduation, becomes involved in a radical environmental movement group and his life is threatened. Parents send him to

[5] An odds ratio below 1.0, in this case 0.08, occurs when the effect size is negative; odds ratios in this study indicate the odds that a particular TRAP-18 indicator *will occur* in the attackers when compared with the nonattackers. Attackers in this study were very unlikely to either directly communicate a threat or have a mental disorder when compared with the nonattackers.

Table 4
Comparison Between Attacker and Nonattacker Subjects on Proximal Warning Behaviors

Proximal variable	Evidence	Attacker		Nonattacker					Odds ratio		
		Freq.	%	Freq.	%	n	χ^2	ϕ	Value	CI−	CI+
Pathway	Present	33	80.5	8	19.5	41	25.60***	.70			
	Absent	0		12	100	12					
Fixation	Present	28	57.1	21	42.9	49	2.53	.22			
	Absent	0		2	100	2					
Identification	Present	30	65.2	16	34.8	46	6.49*	.35	11.25	1.24	101.76
	Absent	1	14.3	6	85.7	7					
Novel aggression	Present	4	36.4	7	63.6	11	3.56	−.26	.28	.07	1.10
	Absent	29	67.4	14	32.6	43					
Energy burst	Present	25	73.5	9	26.5	34	11.08**	.48	10.19	2.30	45.04
	Absent	3	21.4	11	78.6	14					
Leakage	Present	24	60.0	16	40	40	.01	−.01	.94	.26	3.39
	Absent	8	61.5	5	38.5	13					
Last resort	Present	26	78.8	7	21.2	33	16.08***	.57	16.10	3.57	72.68
	Absent	3	18.8	13	81.3	16					
Directly communicated threat	Present	2	18.2	9	81.8	11	11.08**	−.46	.08	.02	.44
	Absent	30	73.2	11	26.8	41					
Total (N)		33		23		56					

Note. Fisher's exact significance utilized where applicable. *OR* = odds ratio; CI+ = upper bound 95% confidence interval; CI− = lower bound 95% confidence interval.
* $p < .05$.   ** $p < .01$.   *** $p < .001$.

United States and he enrolls in a community college. Begins using methamphetamine, and decompensating, likely because of untreated bipolar disorder. Makes a terrorist threat against an instructor, is expelled. Enrolls in another community college, continues to threaten instructors, begins research and fascination with Al Qaeda. Begins posting threats against law enforcement and the government, including threats of suicide by cop as a martyr.

Case 4. Felt rejected and bullied all his life. Began empathizing with the Boston Marathon bombers, posting threats on line and in writing to a newspaper in Virginia; is arrested while purchasing weapons and assessed by mental health while in jail. Upon release moves to Los Angeles, where he is placed on a mental health hold for suicidality a few weeks later. Referred to a board and care facility where he is mandated for treatment, and begins disclosing his antigovernment views and personal grievances. Referred to CVE team.

Case 5. Substance induced disorder with psychosis and paranoia. Believes FBI and U.S. Secret Service are after him. Placed on FBI watchlist for 10 years prior to CVE intervention when he attempted to purchase weapons and

threatened to kill FBI agents. Threatened to assault an occupied facility.

Case 6. Denied Social Security benefits which he claimed due to mental disorder. Threatened to carry out a shooting at an elementary school near his home, stating this was his way to get back at the U.S. Government.

Case 7. Untreated paranoid schizophrenic, angry due to belief in U.S. government's troops' invasion of Syria.

Case 8. Sadistic and extreme right-wing postings on his social media. Makes threatening statements. Influencing peers and making them do things for him; evidences grievance against U.S. Government.

Case 9. Influenced by father who travels frequently to Pakistan and his strong ties to the region. Father was incarcerated for 10 years because of heroin smuggling to the United States.

Case 10. Paranoid schizophrenic, grievance against U.S. Government because of his belief that the government is poisoning families in Northern California. Posting conditional threats, demanding the government to stop.

Case 11. Joins and forms extreme right-wing groups through social media, inciting white supremacist violence.

Table 5
Comparison Between Attacker and Nonattacker Subjects on Distal Characteristics

Proximal variable	Evidence	Attacker		Nonattacker					Odds ratio		
		Freq.	%	Freq.	%	n	χ^2	ϕ	Value	CI−	CI+
Personal grievance and moral outrage	Present	32	100	21	91.3	53	2.89	.23			
	Absent	0		2	8.7	2					
Framed by ideology	Present	33	100	14	60.9	47	15.39***	.52			
	Absent	0		9	39.1	9					
Failure to affiliate with extremist or other group	Present	4	12.1	6	31.6	10	2.94	−.24	.30	.07	1.24
	Absent	29	87.9	13	68.4	42					
Dependence on the virtual community	Present	19	65.5	14	63.6	33	.02	.02	1.09	.34	3.46
	Absent	10	34.5	8	36.4	18					
Thwarting of occupational goals	Present	20	66.7	18	90	38	3.58	−.27	.22	.04	1.15
	Absent	10	33.3	2	10	12					
Changes in thinking and emotion	Present	24	100	16	80	40	5.28*	.35			
	Absent	0		4	20	4					
Failure of sexually intimate pair-bonding	Present	18	62.1	11	78.6	29	1.17	−.17	.45	.10	1.96
	Absent	11	37.9	3	21.4	14					
Mental disorder	Present	15	48.4	16	94.1	31	10.04**	−.46	.06	.01	.50
	Absent	16	51.6	1	5.9	17					
Creativity and innovation	Present	17	53.1	3	15	20	7.56**	.38	6.42	1.57	26.31
	Absent	15	46.9	17	85	32					
History of criminal violence	Present	13	43.3	12	54.5	25	.64	−.11	.64	.21	1.93
	Absent	17	56.7	10	45.5	27					
Total (*N*)		33		23		56					

Note. Fisher's exact significance utilized where applicable. *OR* = odds ratio; CI+ = upper bound 95% confidence interval; CI− = lower bound 95% confidence interval.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Changes in thinking and emotion. This characteristic was significantly more prevalent among the attackers (100%) than the nonattackers (80%) with a medium effect size (ϕ = .35).

Creativity and innovation. In this study, creativity and innovation were significantly more frequent among the attackers (53%) than the nonattackers (15%) with a medium effect size (ϕ = .38, *OR* = 6.42, 95% CI [1.57, 26.31]).

Mental disorder. The presence of a mental disorder was significantly less frequent (48%) in the attackers when compared with the nonattackers (94%) with a medium effect size (ϕ = −.46, *OR* = 0.06, 95% CI [0.01, 0.50]).[6]

Nonsignificant Differences in TRAP Indicators

Fixation—pathological preoccupation with a person or a cause accompanied by a deterioration in relationships or work—was present in 57% of the attackers and 43% of the nonattackers. Novel aggression—the testing of

one's capacity to be violent—was present in 36% of the attackers and 64% of the nonattackers. This was a nonsignificant finding but did have a small negative effect size (ϕ = −.26). Leakage—the communication to a third party of intent to attack a target—was present in 60% of the attackers and 40% of the nonattackers with no significant difference. Personal grievance and moral outrage—the joining of a personal grievance with outrage concerning a suffering group—was present in 100% of the attackers and 91% of the nonattackers. Failure to affiliate—rejecting or being rejected by an extremist or other group—was present in 12% of the attackers and 32% of the nonattackers. The finding was not significant; however, there was a small negative effect size (ϕ = −.24). Dependence on the virtual community—use of the Internet and social media for interaction or skill development—was present in 66% of the attackers and 63% of the nonattackers. Thwarting of occupa-

6 See footnote 5.

tional goals—a major failure in academic or occupational goals—was present in 67% of the attackers and 90% of the nonattackers, again with a small and negative effect size ($\phi = -.27$). Failure of sexual pair bonding—the inability to maintain a lasting sexually intimate relationship—was present in 62% of the attackers and 79% of the nonattackers. Criminal violence—a history of instrumental criminal acts of violence—was present in 43% of the attackers and 55% of the nonattackers.

Discussion

The Attackers

Although a few of the subjects operated in autonomous cells, none of them were under the command and control of a terrorist organization. This does not imply, however, that they were not influenced by global terrorist movements, and did not aspire to be recognized as a *bona fide* "soldier" for their chosen cause. Lone actor terrorists have a variety of contacts with influencers in both the terrestrial and virtual worlds, and such individuals may range from spiritual mentors and sanctioners to tactical advisors, and include friends, relatives, imams, spokesmen, previous cellmates, admired "soldiers," other acquaintances, and in some cases, undercover agents. Such associations may vary greatly in terms of proximity, frequency, and duration of contact (Schuurman et al., 2017).

Comparison to Nonattackers

The infrequency of women in our study across both samples is a finding consistent with the general violence literature as well as the targeted violence research (Meloy & Hoffmann, 2014). The older age of the attackers may be the result of sample selection; on the other hand, it does tend to confirm a phenomenon that Gill (2015) noted: unlike violent criminals in general where the mean age is usually between 15 and 24, lone actor terrorists have a much greater age range and more even distribution across the third and fourth decades of life.

The TRAP-18 Indicators

The retrospective findings in this study provide further understanding of the motivations and behaviors of those who have attacked when compared with those deemed at risk by counterterrorism investigators, but who did not mount an attack, or upon investigation, had no intent to attack. The overall configurations of the TRAP-18 indicators suggest that each proximal warning behavior was present in a majority of the attackers, with the exception of novel aggression (36%) and directly communicated threat (18%). Every attacker had at least one proximal warning behavior. Likewise, each distal characteristic was present in a majority of the attackers, with the exception of failure to affiliate with an extremist or other group (12%), mental disorder (48%), and history of criminal violence (43%). Among the nonattackers, only two of the proximal warning behaviors occurred in a majority of the subjects: novel aggression (64%) and directly communicated threat (82%). In contrast, most of the distal characteristics were present among the majority of nonattackers, with the exception of failure to affiliate with an extremist or other group (32%), and greater creativity and innovation (15%). These two distal characteristics, however, are problematic. In the evolving sociology of individual terrorism (Spaaij, 2012), affiliation appears to have been subsumed by inspiration, primarily due to social media, and therefore coding is less frequent among lone actor terrorists after 2005; and creativity and innovation is much harder to infer, and therefore code, when the terrorist attack did not occur. Coding of that indicator in the comparison group is dependent upon evidence of research, planning, and preparation—and how creative and innovative it was— which was only available in 20% of the comparison cases. Nevertheless, the general configuration of the proximal warning behaviors and distal characteristics for the attackers and the nonattackers quantitatively supports the proposed theoretical model and construct validity for the TRAP-18: the presence of at least one proximal warning behavior suggests active management of the case, whereas the absence of warning behaviors and the presence of only distal characteristics suggests active monitoring of the case.

Pathway warning behavior. This proximal warning behavior is derived from the work of Fein and Vossekuil (1999) who coined the term "pathway to violence," and Calhoun and Weston (2003) who theoretically identified the stages or markers along the pathway. Although initial research on the pathway as a warning

behavior was limited during its first decade as a theoretical construct, numerous studies have now shown that a pathway does exist in most cases of targeted violence, whether terrorism (Gill, 2015; Gill, Horgan, & Deckert, 2013), public figure attacks (Meloy, Sheridan, & Hoffmann, 2008), school shooters (O'Toole, 2000; Vossekuil et al., 2002), or adult and adolescent mass murderers (Meloy, 2004; Horgan, Gill, Bouhana, Silver, & Corner, 2016). The TRAP-18 definition of pathway warning behavior, moreover, focuses only on the *late stage markers*, including research, planning, preparation, and implementation; and in previous studies of lone actor terrorists has been present as a warning behavior in >85% of the cases (Meloy, Habermeyer, et al., 2015; Meloy & Gill, 2016). This is the first study to show, moreover, that these late stage markers correlate with a terrorist attack and differentiate those who successfully commit attacks from those who are identified as a risk, have not yet moved into operational space, and have been deemed to be without intent or were able to be successfully risk managed.

Identification warning behavior. This proximal warning behavior in the context of terrorism is defined as identification as an agent of a particular cause or belief system. It is the formation of a self-identity wherein one has become a soldier or a warrior for an ideology—whether a jihadist, a right wing extremist, or a single issue terrorist. We think this is very important as an indication that the subject may be mobilizing for violence, particularly when viewed in the context of fixation, another proximal warning behavior which was evident in 57% of the attackers and 43% of the nonattackers, with no significant difference in this study. When fixation evolves into identification—what one thinks about all the time (preoccupation) to what one becomes (self identity)—it may be an important indication that the subject being investigated is now fully in operational space, and is a soldier for his cause in his own mind. Previous studies have shown high frequencies of both fixation and identification in individual terrorists (Meloy, Habermeyer, et al., 2015; Meloy & Gill, 2016), and in one study fixation was significantly *more* frequent among the successful when compared to the thwarted attackers (Meloy & Gill, 2016). Moreover, in Meloy and Gill (2016), there was no significant differ-

ence in identification between the thwarted and successful attackers. These apparent contradictory findings are likely attributable to the fact that the thwarted attackers in Meloy and Gill (2016) had already mobilized for violence (therefore the high frequency of identification in both groups); whereas in this study, there was intervention much earlier in the comparison group, and the evolution from just fixation to identification had not yet occurred. In Meloy and Gill (2016) there was no comparison group of successfully risk managed subjects before they attempted to mount an attack. The time sequencing of all these proximal warning behaviors is largely unknown at present (Gill, 2016), and it is possible that identification may precede fixation in some cases, and then accelerate behavior and intensify fixation as the subject continues down the pathway to violence. Likewise the distal characteristics do not imply a time sequence within their cluster, and we have observed ideological framing to precede a personal grievance and moral outrage in some cases (Meloy & Genzman, 2016).

Identification may seem an esoteric concept that cannot be observed or measured, but it is often quite apparent in what Gosling (2008) calls "identity claims:" public displays wherein the subject uses clothing, amulets, tattoos, insignias, uniforms, business cards, or military or extremist paraphernalia to signal to others with whom or what cause he identifies. Much of this material is on full display through the subject's social media postings—but those lone actor terrorists who do less of this behavior on the Internet are also more successful in their attacks (Meloy & Gill, 2016). We have elaborated on the concept of identification in threat assessment elsewhere (Meloy, Mohandie, Knoll, & Hoffmann, 2015). The identification warning behavior is also an identification with the aggressor (Freud, 1937/1966), and suggests another evolution: the distal characteristic, personal grievance and moral outrage, focuses upon vicarious identification with a suffering group, that is, identification as a victim. This self-identity evolution from the more distal characteristic as a *victim* to the more proximal warning behavior as an *aggressor* is noteworthy in the TRAP-18.

Energy burst warning behavior. This proximal warning behavior is a measure of accelerated activity. The subject is observed to be

more active in the *terrestrial* world than he normally is. It requires knowledge of the subject's usual level of daily activity, and therefore requires that the subject be known to investigators before such an energy burst occurs. It may have many motivations, but probably the most common is a failure to have planned in advance the amount of time needed to complete all the details for carrying out the attack. Some lone actor terrorists have even noted their fatigue at having to work so long and hard as the date of their attack approached (Meloy, Habermeyer, et al., 2015). Although calibration of energy burst is difficult, and has not yet been done quantitatively, it appears to robustly discriminate between the groups, and is likely to occur in the hours, days, or weeks before the attack. Although not yet measured, anecdotal data suggest that activity in the *virtual* world will decrease during this time for a number of reasons: the subject is too busy, or he is now encrypting his messaging to avoid detection prior to attack. This proximal warning behavior once again underscores the need for CT investigation of subjects of concern to contemporaneously occur not only in the terrestrial world but also the virtual world.

Our findings contrast with those concerning energy burst in Meloy and Gill (2016), which reported a prevalence of 8% in 111 lone actor terrorists in Europe and North America. We think this very low frequency was the inattention to and measurement of increased activity in the original coding of the sample. In a European sample of 22 lone actor terrorists, energy burst was 100% in both the individual terrorists and the autonomous cells (Meloy, Habermeyer, et al., 2015).

Last resort warning behavior. This proximal warning behavior is defined as a violent action-time imperative (Mohandie & Duffy, 1999)—the subject must act, and he must act now. It may be a signal of desperation or distress, and sometimes the subject feels trapped (S. White, personal communication, July, 2018). It is usually preceded by a triggering event, which is an historical or anticipated loss in love or work.[7] In previous studies using the TRAP-18, last resort was evident in 28% of the terrorists (Meloy & Gill, 2016) and 100% of the European terrorists (Meloy,

Habermeyer, et al., 2015) without any comparison groups.

Directly communicated threat warning behavior. This warning behavior is defined in the TRAP-18 as a directly communicated threat to the target or law enforcement beforehand. All direct threats need to be taken seriously, but research on targeted violence over the past 20 years has been remarkably consistent in the fact that most perpetrators do not directly threaten beforehand (Meloy, Hart, & Hoffmann, 2014). Lone actor terrorism research indicates that less than 20% directly threaten the target before an attack (Meloy & Gill, 2016). The most obvious reason is a tactical one: the subject does not want to lower his probability of success by forewarning the target he has selected.

This is the first time a significant negative correlation has been demonstrated between terrorist attackers and nonattackers for this warning behavior, although there was a striking difference in direct threats in the same direction when German school shooters were compared to other students of concern (Meloy, Hoffmann, Roshdi, & Guldimann, 2014). To paraphrase our colleagues, most howlers do not hunt, and most hunters do not howl (Calhoun & Weston, 2016). Research has consistently shown over the past decade that the majority of those who engage in any targeted violence do not directly warn their target beforehand, with one exception: prior sexual intimates, and the so-called intimacy effect (Calhoun & Weston, 2016; see the appendix by D. Jenkins in Calhoun & Weston). Nevertheless, all direct threats should be taken seriously and investigated, because to do otherwise is to risk the toxic bite of a false negative (assuming a direct threat will not lead to violence, and then it does).

Ideological framing. Although this distal characteristic is contaminated by the fact that the independent variable for subject selection was terrorism, it suggests that a prelude to mobilization for violence, and thus a need for ac-

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[7] The loss, however, may be real or fantasized; often if only based in the psychology of the subject, it is pervaded with pathological narcissism. Timothy McVeigh, the Oklahoma City bomber, believed he would be the first hero of the second American Revolution (Meloy, 2004), but only if he avenged the loss of the Branch Davidian lives in Waco, Texas, whom he believed were murdered by the U.S. Government.

tive risk management by counterterrorism professionals, may be a more obvious hardening (increasing simplicity, clarity and rigidity) of the ideological framework for the subject's personal grievance and moral outrage, a distal characteristic which was not significantly different between the groups (100% vs. 92%). The ideological framing likely provides a conscious rationalization for the planned attack, and also more closely allies the subject with a national or international extremist movement—which may, in turn, burnish his narcissism and fuel his desire to be a part of a larger and violent "band of brothers" (or in some cases sisters and families)[8] committed to a cause. Any belief system can be weaponized.

Changes in thinking and emotion. This distal characteristic is complex, and is defined as a:

> pattern over time wherein thoughts and their expression become more strident, simplistic, and absolute. Argument ceases and preaching begins. Persuasion yields to imposition of one's beliefs on others. There is no critical analysis of theory or opinion, and the mantra, "don't think, just believe," is adopted. Emotions typically move from anger and argument to contempt and disdain for others' beliefs, to disgust for the outgroup and a willingness to homicidally aggress against them (Matsumoto et al., 2015). Violence is cloaked in self-righteousness and the pretense of superior belief. Humor is lost. Engagement with others in virtual and/or terrestrial reality may greatly diminish or cease once the subject has moved into operational space. (Meloy, 2017, p. 34)

The coding of this indicator focuses upon three domains of changes in functioning: interpersonal behavior; internal thoughts and fantasies often manifest verbally, in writing, or through social media; and emotions in relationship to the perceived unbelievers. Although the process of radicalization (Hamm & Spaaj, 2015) and its relationship to actual violence is quite controversial—perhaps epitomized by the often fluid boundary between freedom of speech and incitement to violence—it appears that this indicator has captured the inflection point between violent *thought* and violent *action*, at least in this study.

Creativity and innovation. This distal characteristic is coded on the basis of one of two findings: is the planned terrorist act innovative? In other words, have the weapons or tactics been used before in contemporary times? Or is the planned terrorist act likely to be imitated by others in the future? This finding may be true or not given the greater availability of details concerning an attack that has occurred, when compared with uncovering the details of an attack which only reached the research, planning, and preparation stages. Once again, there were only 20% of the nonattackers where such pathway warning behavior was evident. In Meloy and Gill (2016), creativity and innovation was found in 29% of 111 lone actor terrorists; and in Meloy, Habermeyer, et al. (2015), it was found in 60% to 71% of 22 individual terrorists in Europe. Such disparity in findings in these two studies may be attributable to differences in samples as the indicator had an interrater reliability coefficient of .77 (Cohen's kappa) in Meloy, Habermeyer, et al. (2015). Further research is necessary, but an investigator would predict that creativity and innovation would be more frequent among the successful attackers, which this study supports. In Meloy and Gill (2016), this indicator was also more frequent among the successful (36%) than the thwarted (18%) attacks at $p < .045$.

Mental disorder. The finding of significantly *lower* frequency of mental disorder among the attackers may be true or not. The frequency data on the attackers are quite close to the reported prevalence in other studies which approximates 40% (Corner & Gill, 2015; Meloy & Gill, 2016). However, there was subject overlap across these studies. On the other hand, the comparison group were more closely clinically scrutinized through review of mental health records and/or direct evaluations by psychologists who were members of the investigative and CVE teams in both metropolitan areas. This may account for the high prevalence of diagnoses in the comparison group, including major depressive disorder, schizophrenia paranoid type, substance induced disorder, antisocial personality disorder, and bipolar I disorder.

If one assumes this is a real finding, however, it appears to make forensic sense. Those lone actor terrorists without mental disorder are less likely to come to the attention of others who may be concerned about their behavior and refer

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[8] As of this writing, there were simultaneous suicidal terrorist attacks conducted by several different and entire families in Surabaya, Indonesia inspired by ISIS (May, 2018).

or report them for interventions. They may fly under the radar more easily and be more likely to mount a successful attack because of the absence of any cognitive or perceptual impairments. This was the case in one study of public figure attacks (Fein & Vossekuil, 1999) wherein the successful attackers were significantly less likely to be delusional than the thwarted attackers with lethal intent—despite the high frequency of delusion across the entire sample.

Other Comparison Studies

In one other comparison study utilizing only the warning behaviors (Meloy, Hoffmann, Roshdi, Glaz-Ocik, & Guldimann, 2014), German school shooters ($n = 9$) were compared were other students of concern but without intent ($n = 31$). The warning behaviors which significantly differentiated the two groups in the direction of attack were pathway, fixation, identification, novel aggression, energy burst, and last resort—all with medium to large effect sizes.

In a postdictive study of domestic terrorists (Sovereign Citizens; Challacombe & Lucas, 2018), 10 TRAP-18 indicators significantly correlated with violence with medium to large effect sizes ($\phi = 0.33–0.70$): the warning behaviors of pathway, identification, leakage, and last resort; and the distal characteristics of personal grievance and moral outrage, framed by ideology, thwarting of occupational goals, and criminal violence. Two warning behaviors negatively correlated with violence: novel aggression and energy burst. Therefore, pathway, identification, and last resort appear to be the three warning behaviors cross validated as correlates of violence risk in all three studies to date.

Nonsignificant Differences in the Proximal Warning Behaviors

According to the model of the TRAP-18, most proximal warning behaviors should be apparent in attackers, and not apparent in nonattackers. The data lend support to this assertion because only three warning behaviors—fixation, novel aggression, and leakage—were not significantly different between the groups.

Fixation was less frequent than in most studies of lone actor terrorists (Meloy & Gill, 2016),

as well as other targeted violence samples (Meloy, Hoffmann, Roshdi, Glaz-Ocik, et al., 2014), wherein frequencies typically exceed 75%. In one study of public figure attackers, fixation was strongly associated with a higher lethality risk, loner status of the attacker, and delusions (James et al., 2007).

With the novel aggression finding, one might infer that the practicing of violence may expose the subject to investigation and represent a security risk for him that could disrupt his attack plan. The leakage finding comports with other studies of leakage among both lone actor terrorists and other mass murderers, both adolescents and adults (Horgan et al., 2016; Meloy & O'Toole, 2011)—it is predictably present in the majority of cases. Leakage is often the first warning behavior to come to the attention of authorities and opens a case. The paradox is that most attackers will leak their intent to third parties, yet most subjects who leak have no intent to act. The threat assessment risk is complacency: the investigator knows that most individuals who leak intent will be false positives, and therefore does an insufficient investigation and misses a prelude to an actual attack.

Nonsignificant Differences in the Distal Characteristics

Likewise, according to the model of the TRAP-18, most distal characteristics should be apparent in *both* attackers and nonattackers with no significant differences. This is the case for the majority of distal characteristics.

Personal grievance and moral outrage appears to be the *sine qua non* without which there would be no possible beginning of a pathway, and no need to ideologically frame one's pursuit of justice. Personal grievance, of course, is hypothesized to be the basis for all pathways to violence (Calhoun & Weston, 2003), and appears supported by most extant research (Silver, Simons, & Craun, 2018). The moral outrage—a vicarious identification with a victimized group—provides the springboard to expand, often in a grandiose manner, one's grievance to include national or international social and political events, leading to a form of target dispersion that may accelerate pathway behavior (Silver et al., 2018).

Failure to affiliate with a terrestrial group has lessened with the advent of social media, so we

expected a low frequency in concert with other studies, and found it (Meloy & Gill, 2016). The emergence of dependence on the virtual community during the past decade, and the shift from affiliation to inspiration among lone actor terrorists, is reflected in the majority of our sample subjects.

The nonsignificant difference in the thwarting of occupational goals herein may be related to the disproportionate presence of mental disorder in our nonattack group, although the majority in both groups suffered the pangs of failure in the work environment to which they originally aspired.

Although the failure of sexual pair bonding has received virtually no attention in the terrorism research (Meloy, 2018), we believe it plays a significant role as a distal characteristic emerging from the real world failure to form adult attachments, and often the compensatory nurturing of fantasies of idealized sexual union if one dies a violent death. In a study of European terrorists (Meloy, Habermeyer, et al., 2015), this characteristic was evident in 79% of the individual terrorists (but not cell members); and in Meloy and Gill (2016), it was evident in 84% of 111 lone actor terrorists in Europe and North America.

The history of criminal violence data are quite similar to those reported by Gill (2015), who found that just under half of his sample possessed a previous criminal conviction; half of these served time in prison. Our samples, however, appear to be most similar to Gill's third type of criminal lone actor terrorist—those with more serious and chronic criminal offending—and thus appear to represent a more frequently violent group. In Meloy and Gill (2016), criminal violence was present in 30% of the lone actor terrorists. In the European study (Meloy, Habermeyer, & Guldimann, 2015), criminal violence was present in 22% of the individual terrorists and 100% of the cell members, the only distal characteristic that was significantly different when comparing lone actors and autonomous cell members ($p = .0048$, $phi = .70$). In the context of radical Islam, these numbers suggest "gangster jihad," the active recruitment of juvenile delinquents to the global cause of the caliphate, often done by an older male adult (Basra, Neumann, & Brunner, 2016).

We reiterate the weather analogy of Monahan and Steadman (1996) and its application to the TRAP-18: the presence of any configuration of distal characteristics suggests that the case be actively monitored (the Watch); the presence of any one proximal warning behavior suggests that the case be actively risk managed (the Warning). The distal characteristics are metaphorically storm clouds on the distant horizon. We do not know whether they will evolve into an active weather event, and whether they will move toward us. Proximal warning behaviors mean the storm is in our backyard.

Limitations

There are many limitations to this study. It is retrospective by design; therefore, no inferences can be made concerning predictive validity. The samples are relatively small and nonrandom, raising questions of representation bias. The attackers and nonattackers were not matched, and were significantly different across some basic demographic variables (see Table 3), in addition to the time frames during which they were selected for the study, which raise the probability that other unknown variables contributed to the differences in the TRAP-18 findings. There is also the possibility of time cohort effects given the 23-year range of the attack incidents (1993–2016)—although very few of the attackers acted prior to 2000 (18%), and 42% acted between 2010 and 2016 (Gill, Horgan, Corner, & Silver, 2016). There was no quantitative determination of interrater reliability, and agreement was reached among coders through discussion and consensus. The coders were also not blind to the group assignments for the subjects, and in some cases were intimately familiar with the subjects, introducing questions of various researcher bias in the study (anchoring, hindsight, confirmatory, availability, etc.). We also did not have sufficiently reliable data to determine whether or not the attackers had been risk managed; nor did we have sufficient sample sizes to compare any differences between those nonattackers who were successfully risk managed, and those who had no intent to begin with. We had to collapse these two groups into our one comparative "nonattack" group. Nonetheless, this is one of the first studies of individual terrorist attackers which utilized a comparison group of national security concern, yet did not

mount an attack, and contributes to the research on correlates for terrorist violence.

Conclusion

Counterterrorism and counterintelligence professionals are very different from politicians and other social activists. As Hayden (2018) noted, they enter public service through two separate doors: politicians and social activists will think deductively, fitting their general principles to the facts before them; have a vision for the future which they believe is the best for others; and are optimists concerning the human capacity for good and the march of progress. Counterterrorism and counterintelligence professionals are quite different: they think inductively, letting the actual facts, which have been carefully vetted, construct the bigger picture; are focused upon identifying and managing risks in the present, not the future; and are pessimists. They smell the flowers, but then look around for the hearse.

The TRAP-18 is a structured professional judgment instrument for such professionals, focusing upon the behaviors of the subject and discerning the patterns that are emerging; identifying behaviors of concern in the present which need monitoring (the distal characteristics) or active risk management (the proximal warning behaviors), rather than trying to predict the future; and recognizing that human nature is neither inherently good or bad. It just is. Our experiences shape us, our decisions define us.

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