

Journal of Threat Assessment and Management

The Concept of Last Resort in Threat Assessment

J. Reid Meloy, Molly Amman, Angela Guldemann, and Jens Hoffmann

Online First Publication, December 14, 2023. <https://dx.doi.org/10.1037/tam0000217>

CITATION

Meloy, J. R., Amman, M., Guldemann, A., & Hoffmann, J. (2023, December 14). The Concept of Last Resort in Threat Assessment. *Journal of Threat Assessment and Management*. Advance online publication. <https://dx.doi.org/10.1037/tam0000217>

The Concept of Last Resort in Threat Assessment

J. Reid Meloy¹, Molly Amman², Angela Guldemann³, and Jens Hoffmann⁴

¹ San Diego Psychoanalytic Center, San Diego, California, United States

² Molly Amman Threat Assessment, LLC, Des Moines, Iowa, United States

³ Department of Forensic Psychiatry, University Hospital of Psychiatry Zurich

⁴ Institute of Psychology and Threat Management, Darmstadt, Germany

As one of eight proximal warning behaviors now commonly considered by researchers and threat assessment professionals, last resort is noteworthy both for its deep grounding in psychology as well as its correlation with the potential imminence of violent action. Yet it has not, to date, been explored to the degree worthy of its suggestive validity. The authors review the clinical and forensic research on last resort warning behavior, focusing on its history, definition, phenomenology, case examples, frequency across numerous targeted attack samples, comparative and postdictive studies, and its relationship to apocalypticism, mental disorders—in particular depression—and precipitant or triggering events. The authors conclude that last resort proximal warning behavior is a correlate of targeted attacks, whether primarily fueled by personal grievance, ideology, or a mishmash of motivations inexplicable to the rational mind.

Public Significance Statement

Last resort, a commitment to imminent violent action, has been found to strongly correlate with targeted attacks carried out by many different offenders, including school shooters, adult mass murderers, and terrorists. This study explores in detail the definition, history, and research of this particular warning behavior; the authors recommend that threat assessors closely monitor for its presence and manage with both urgency and care a person of concern who displays last resort in word or deed.

Keywords: terrorism, threat assessment, social media, violence risk, last resort

You had a hundred billion chances and ways to have avoided today, but you decided to spill my blood. You forced me into a corner and gave me only one option. The decision was yours. Now you have blood on your hands that will never wash off. ... Are you happy now that you have destroyed my life? Now that you have stolen everything you could from me?

—Seung-Hui Cho (https://schoolshooters.info/site/default/files/cho_manifesto_1.1.pdf)

A suggested typology for proximal warning behaviors for targeted violence was proposed over a decade ago (Meloy et al., 2012). The typology identified eight patterns of accelerating risk—pathway, fixation, identification, novel aggression, energy burst, leakage, last resort, and directly communicated threat—and was offered as a means by which threat assessment professionals could organize evidence in a case through the use of pattern analysis. Pattern analysis finds its provenance in gestalt psychology (Koffka, 1935; Kohler, 1925; Wertheimer, 1938) and is now advanced by some as a basic principle of cognitive processing and research (Tong & Pratte, 2012).

Along with the publication of this typology, other studies have further explored several of the warning behaviors, including pathway (Calhoun &

J. Reid Meloy  <https://orcid.org/0000-0002-3826-332X>

J. Reid Meloy is the owner and developer of the TRAP-18 (Terrorist Radicalization Assessment Protocol) and derives income from his exclusive license to Multihealth Systems, Inc. (<https://mhs.com/>) for training and publication.

Correspondence concerning this article should be addressed to J. Reid Meloy, San Diego Psychoanalytic Center, 4455 Morena Boulevard, San Diego, CA 92117, United States. Email: reidmeloy@gmail.com

Weston, 2003, 2016), leakage (Meloy & O’Toole, 2011), identification (Meloy, Mohandie, et al., 2015), fixation (Meloy & Rahman, 2021; Mullen et al., 2009), and directly communicated threat (Warren et al., 2021). Other studies have empirically tested both the reliability and validity of the typology *in toto* and found it both accurately measurable (reliability) and useful (validity; Meloy, Hoffmann, et al., 2021). The proximal warning behaviors both correlate with and postdict acts of targeted violence in various samples (Meloy, Hoffmann, et al., 2021). The eight warning behaviors have also been incorporated into the Terrorist Radicalization Assessment Protocol (TRAP-18; Meloy, 2017), which also has some reliability and validity (Allely & Wicks, 2022).

Last resort warning behavior, in particular, has been found to correlate with, and in some cases postdict, targeted violence yet has not been explored to the degree worthy of its validity (Meloy, Hoffmann, Roshdi, Glaz-Ocik, & Guldimmann, 2014). We intend to do this in the following study.

The Definition

A last resort act is a final course of action. It is perceived as the lone remaining choice when all else has failed; every other possibility has been ruled out, yet action remains necessary. The idiom “last resort” has its origins in the French *en dernier ressort*, a particular kind of legal court case that offered only a final decision with no right to appeal (Grammarist.com, 2023). In its modern use, last resort is understood to involve the prior existence of more desirable possibilities but an end state in which these preferred options have been lost or withdrawn. Once this end state is reached, a sense of time compression is implied in that a choice must be made before time runs out to choose anything at all. If action on the only option left is not taken, then the worst-case outcome to the particular situation will come to pass. This justifies any consequences from undertaking the last resort option; if the actor has no choice but to accept a less desirable course of action, then he cannot be faulted for the less desirable outcome—his hand was forced.

Last resort may also, but need not, feature an element of reluctance; the actor would have preferred alternatives now perceived as fore-closed over the choice left before him. But this reluctance may be replaced with enthusiasm as

the actor adjusts his thinking around the new alternative and he experiences pleasure through his secrecy and anticipation of social dominance: taking action as re-empowering himself. This enthusiasm may even result in a brisker pace toward acting out what was once perceived as the less desirable course but may no longer be. The new course of action offers an opportunity to end on a high note—gloriously empowered once again. In the extreme, enthusiasm may even be experienced as a sense of destiny (e.g., “When God closes a door, He opens a window”), especially if he comes to believe that his choice is sanctioned by a higher, omnipotent power. For example, upon realizing that upcoming travel by his wife and children would allow him to plan, prepare, and carry out the murder of Dr. John Britton in 1994, anti-abortion terrorist Paul Hill reflected, “God had opened a window of opportunity, and it appeared that I had been appointed to step through it” (Sharkey, 2003). His thinking became teleological rather than causative.

This psychological dissection of last resort has applicability in the study and practice of behavioral threat assessment. In our view, last resort *thinking* by a person who is on a trajectory toward planned violence consists of several distinct but interrelated elements: (a) an internal experience of crisis in relation to the object of preoccupation, further pressured by (b) a realization that viable alternatives to violence have evaporated, (c) a belief that violence has become necessary and urgent—action is required and the time is now, (d) an acceptance of all consequences of violence as being justified, and (e) potentially a fresh sense of drive, even destiny, toward execution of the violent act as enthusiasm replaces any reluctance. Last resort *warning behavior* is the outward demonstration, by performance in deed or in word, of some aspect of this thinking. It is the visible warning that this dangerous mental process is occurring. However, it is not absolute that this behavior marks a point of no return because a would-be offender can turn back at any point along a personal path to violence. There is still hope to redirect the individual away from violence by prompt and effective intervention.

Last resort thinking is typically preceded by, or in anticipation of, a triggering event. Often this event is a loss in actual love or work, but such events may also be purely psychological for the individual. In other words, the sense of being trapped may be completely endogenous. This has

important assessment implications which will be discussed further below.

Last resort will also be used by political leaders to motivate their followers (Amman & Meloy, 2021, 2022). In this scenario, a “violent action/time imperative” is foremost, and there is posited an imminent, existential threat from an out-group that must be addressed. For those followers who have never been violent before, such “rhetorical accelerationism” (Amman & Meloy, 2021) facilitates the redefining of violence as defensive rather than offensive, thus eliminating any cognitive dissonance concerning a self-identity as a nonviolent person clashing with the decision to now be violent. This process may be overt on the more permissive social media platforms or more subtle in order to avoid content moderation—yet still provoke fear leading to last resort thinking (Saha et al., 2023). “When all else fails, kill it with fire” (Correia, 2011, p. 79).

The History

The term “last resort warning behavior” was proposed by Meloy et al. (2012, p. 265) as part of a wider, novel typology of proximal warning behaviors. It was defined as follows:

Evidence of a violent “action imperative” (Mohandie & Duffy, 1999): increasing desperation or distress through declaration in word or deed, forcing the individual into a position of last resort. There is no alternative other than violence, and the consequences are justified (De Becker, 1997). The subject feels trapped. (S. White, personal communication, October 2010)

Early on in the professional discipline of behavioral threat assessment, behaviors now recognized as last resort were documented by threat assessment professionals and scholars: A *violent action imperative* is demonstrated when a person of concern articulates a sense of singular focus on violent action to the exclusion of nonviolence (e.g., “I have no other choice” or “You’ve backed me into a corner”; De Becker, 1997). The person’s deeds or words indicate that violence is felt to be justified by the wrongs endured, and the person no longer sees any alternative to achieve redress except by violence. A closely related concept is the *time imperative*, wherein the person expresses a perceived loss of surplus time in which to peaceably resolve the situation (e.g., “your time is running out” or “the clock is ticking down”; Mohandie & Duffy, 1999).

The person of concern expressing a time imperative is feeling a sense of urgency and compression of time in which to act. The violent action/time imperative was first combined in Mohandie and Duffy (1999) based on an unpublished article the previous year (see Hatcher, 1998).

Although the violent action/time imperative—central to the definition—was not mentioned by others, many factors associated with distress, such as depression and suicidality, helplessness, and hopelessness, have been noted in the targeted violence literature for over 2 decades (Borum et al., 1999; Cornish et al., 1999; Mullen et al., 2000; White & Cawood, 1998).

Last resort warning behavior has also been incorporated into various threat assessment and violence risk structured professional judgment instruments. The Stalking Risk Profile (MacKenzie et al., 2009) considers it one of the five red flag indicators for stalking violence, defining it as,

The individual indicates that they have reached a point where they no longer feel constrained by legal or moral imperatives. They have relinquished hope of achieving the goals of their stalking by socially acceptable means. Their efforts have proved futile, they are exasperated, and they believe they must now provoke a definitive outcome ... such last resort thinking may be precipitated by recent losses or destabilizers. (p. 22)

The Screening Assessment for Stalking and Harassment also contains last resort as a high level of concern item that demands an immediate response (McEwan et al., 2017). The Workplace Assessment of Violence Risk (WAVR-21; White & Meloy, 2016) places it within Item 3, Threatening Communications or Expressed Intent, “a time imperative may indicate a more imminent intention to act” (p. 112, 3rd edition). The TRAP-18 (Meloy, 2017) defines last resort as,

Evidence of a “violent action imperative and/or time imperative” (Mohandie & Duffy, 1999); it may be a signal of desperation or distress. Often the result of an unexpected triggering event, or one which is anticipated, that involves a loss in love and/or work. The subject believes he/she has no other choice and must act now. (p. 22)

The Communications Threat Assessment Protocol (James et al., 2014) labels it “End-of-Tether Language” and defines it as follows:

The individual states that they are contacting the recipient as “a last resort,” “only hope,” “last hope,” “final attempt” etc. This is referred to as “end-of-tether language” or “last-resort thinking.” It indicates that the individual has come to the “end of a road” which leaves

them with few other possible courses of action or avenues to pursue. Their efforts in achieving their goal have proved futile, they are exasperated and, if the current attempt fails, they see little choice other than to resort to extreme measures to provoke a definitive outcome. They may think that they have nothing left to lose, are no longer concerned about their own fate, and they are in danger of taking desperate or illegal [action] in “one last throw of the dice.” Such last resort thinking can be precipitated by recent losses or destabilizers (e.g. an adverse legal outcome, losing a job, home or partner, bankruptcy). It is important because the individuals concerned have reached a position where they have nothing left to lose and so no longer feel constrained by social or legal boundaries. (p. 26)

A common thread in all of these instruments is that at least one of the authors was a member of the Fixated Research Group, which conducted a lengthy study for the United Kingdom Home Office on threats to the British Royal Family in 2002–2008, resulting in many research publications (at <https://drreidmelo.com/>) and the beginning of the Fixated Threat Assessment Centre next to Buckingham Palace. This law enforcement/mental health intervention model is now replicated in other countries, most notably the Netherlands and Australia (Barry-Walsh et al., 2020) and in an adapted form in Switzerland (Guldumann et al., 2016, 2021). Originally separate from counterterrorism efforts in the United Kingdom, this Fixated Threat Assessment Centre model has now broadened to include counterterrorism interventions, particularly in Australia (Pathé et al., 2015). The notation of last resort in these various structured professional judgment instruments contrasts with the absence of last resort as a risk factor in other general violence risk assessment instruments that were not developed to assess the threat of targeted violence, such as the HCR-20 V3 (Douglas et al., 2013).

Phenomenology

Last resort behavior seems to be, at its core, a manifestation of a violent action imperative and/or time imperative. These twin concepts are last resort’s umbrella, under which, on a case-by-case basis, it may manifest in thinking (e.g., a person immersed in last resort thinking feels “trapped” [S. White, personal communication, October 2010]), emotions (e.g., desperation or hopelessness), or actions (e.g., a person is undertaking “final acts” [Calhoun & Weston,

2003]). Each could occur subsequent or antecedent to another, or they theoretically could all emerge in one case. The key is a clear nexus to the core ideation of violent action and time imperatives, which is usually both conscious and preoccupying for the person of concern.

Emotions in particular play an important role in last resort thinking and behavior and paradoxically appear to include both positive and negative affect states. Meloy and Rahman (2021) wrote about this in relation to the pathway to violence and extreme overvalued beliefs:

Lone actor terrorists and some group-based terrorists will often feel moral outrage toward a perceived victimized group, and vicariously identify with that group, feeling anger and humiliation, and other dysphoric states (Meloy & Gill, 2016; Rahmani et al., 2019). As they move on a pathway toward violence, the identification with the victimized group becomes an identification as a warrior or soldier to defend the victimized group, accompanied by feelings of exhilaration and excitement, and other euphoric states (Meloy, 2017). Such paradoxical emotional states, attitudes and assumptions energize the extreme overvalued belief and are nurtured by the extremist group, often through social media (Berger, 2018). Such beliefs can, in turn, drive the impulse to a blood sacrifice of the self and/or others in a cause or for a purpose that is bereft of any critical analysis or judgment (Gibson, 1994; Meloy, 2018; Strozier et al., 2010). The neurobiology of such a cognitive-affective driver may be similar to that found in stalking (Meloy & Fisher, 2005), but needs empirical investigation. (p. 5)

There is no formal research concerning such emotional states as they relate to last resort behavior; however, conceptualizing last resort thinking as an example of extreme overvalued beliefs is useful (Rahman et al., 2021).

As previously suggested (Amman et al., 2017), some behavioral changes may coincide with the occurrence of last resort warning behavior when generated by the thinking or emotions described above. For example, a major weight loss, disregarded hygiene, or a suddenly unkempt appearance,—none of which are explained by a health condition or other logical circumstance—, could be physical manifestations of last resort-associated depression. Significant changes in sleeping or eating patterns could have practical reasoning behind them in the sense of pathway (research and planning, preparation) warning behavior, or they could also be symptomatic of depression. Reckless sexual, financial, or other acts that suggest a lack of concern for future consequences may be evidence of lost hope and/or an embrace of that final remaining option which will likely end in the person’s death or

imprisonment (Amman et al., 2017). Perhaps the most commonly observed behavior is giving away earthly possessions and/or farewell messaging—usually stimulated by both violent action and time imperatives: I am tying off my loose ends in this life and I am doing it now because I am being forced to act in the very near future.

Once last resort warning behavior appears in the presence of other warning behaviors, the individual may be “reaching a critical point on a pathway to violence from which he perceives it may be difficult to turn back” (Amman et al., 2017, p. 87). It suggests the person is experiencing a sense of imminency of a need to act, perhaps believing that need to be an existential one as well, depending on the particular grievance, ideology, or other underlying layers of a case. That sense of imminence is fundamental to the necessity for immediate violent action. If not for the urgency, the probability of violence is lessened in the immediate future. It should be noted that last resort behaviors need not exclusively precede violence but may mark a continuing or renewed commitment to further violence after an initial act has occurred, such as in cases of protracted crises or spree violent acts (Amman & MacKizer, 2017).

Examples from published cases of last resort thinking and behavior are listed in Table 1.

Last Resort Correlates With and Postdicts Targeted Attacks

Table 2 contains studies of targeted attackers within which the frequency of last resort warning behavior was quantified. Sixty percent of targeted attackers across a range of motivations, victims, and locations on average have evidenced last resort warning behavior, with variance across studies.

Although these data are valuable, they do not allow for any statements concerning whether or not last resort significantly correlates with or predicts a targeted attack. Sensitivity (the true positive rate) appears moderately high for last resort, but without comparison groups and studies, specificity (the true negative rate) cannot be known. There are also fundamental limitations with much of this research. First, of necessity, researchers are limited to the data made available to them. Much of the data available for researchers on targeted violence attacks are limited, that is, exist in open source and media reports. Only rarely in published studies of targeted violence attacks,

researchers have been offered access to detailed investigative analyses of an attacker’s preattack behaviors (see Silver et al., 2018, for an example of the latter).

The first comparative study of last resort proximal warning behavior involved a comparison of German school shooters ($n = 9$) and other students of concern ($n = 31$) whom, upon investigation, had no intent to carry out a school shooting (Meloy, Hoffmann, Roshdi, & Guldemann, 2014). Seventy-eight percent of the school shooters evidenced last resort, while zero percent of the students without intent evidenced last resort. The effect size—the strength of the difference—was large ($\phi = 0.855$), second only to pathway proximal warning behavior ($\phi = 0.876$)—although the sample size was small, expanding both the confidence interval and the standard error of measurement.

A comparative study the following year looked at another small sample of European terrorists ($n = 22$) who acted alone and those who formed an autonomous cell (Meloy, Roshdi, et al., 2015). Interrater reliability for coding last resort was excellent (Cohen’s $\kappa = 0.761$), and every subject, whether acting alone or in concert with others, evidenced last resort warning behavior. The only significant difference between the lone actors and the cells was a more frequent history of criminal violence, a distal characteristic of the TRAP-18 (Meloy, 2017), in the latter group.

Meloy and Gill (2016) completed a larger study ($n = 111$ lone-actor terrorists), which allowed for comparisons among jihadist, extreme right wing, and single-issue terrorists, and comparison between thwarted and successful terrorists. Last resort was evident in 28% of the overall sample, and there were no significant differences across ideologies nor when comparing the thwarted versus successful attackers. Although the frequency for last resort was relatively low, the authors noted that this may have been due to a “lack of goodness of fit” between the original coded variables in the data set and the TRAP-18 indicators. The original coding on which the TRAP-18 indicators were based in this study focused upon discrete behaviors rather than the psychological concept of last resort.

Another comparative study of attackers and nonattackers was undertaken again in Meloy et al. (2019). Thirty-three North American lone-actor terrorists were compared with 23 subjects of

Table 1
Examples of Last Resort Thinking and Behaviors

Offender	Case summary	Last resort behavior(s)	Detail	Publication
Timothy McVeigh, Oklahoma City, United States (1995)	McVeigh bombed the Murrah Federal Building, murdering 168 and injuring over 500 others	Expressed violent action imperative Expressed time imperative End-of-life planning	<ul style="list-style-type: none"> In a 1992 op-ed for his hometown newspaper, “[I]s civil war imminent? Do we have to shed blood to reform the current system? I hope it doesn’t come to that, but it might.” In the months prior to the bombing, gave away personal belongings to his sister. Wrote to sister, “Who else would come to the rescue of those innocent women and children at Waco?!? Surely not the Sheriff or the state police! Nor the Army—whom are used overseas to ‘restore democracy,’ while at home are used to destroy it (in full violation of the Posse Comitatus Act), at places like Waco. I’m no longer in the propaganda stage. ... Now I’m in the action stage.” 	Meloy and Holzer (2022)
Nidal Malik Hasan, Fort Hood, Texas, United States, 2009	Mass shooting on a military base, murdering 13 and wounding 32	End-of-life planning Farewell messaging	<ul style="list-style-type: none"> A few days prior to the attack, Hasan emailed his brother about a resolution to a debt, power of attorney paperwork, and instructions on handling his affairs after death or incapacitation. On the day of the attack, left a message for his neighbor: “Nice knowing you, friend. I’m moving on from here” and gave items away to other neighbors including his Koran. On the day of the attack, approached and apologized to a third party for a past slight, before hugging another and explaining a forthcoming absence. On the day of the attack, made an odd statement about events at the base later that day. On the day of the attack, destroyed his birth certificate and medical school degree with a paper shredder. (It is important to note that those who witnessed these last resort warning behaviors interpreted them in a specific context: Hasan was about to be deployed to a combat zone (pp. 6–7).) 	Meloy and Genzman (2016)
Anders Breivik, Oslo and Utoya, Norway (2011)	A bombing in Oslo, and then a mass shooting at a youth camp, murdering 77 and wounding 319	Expressed time imperative Expressed violent action imperative	<ul style="list-style-type: none"> Breivik wrote in his manifesto of the scourge of rapidly spreading multiculturalism, requiring action now. 	Meloy, Habermeyer, et al. (2015)

(table continues)

Table 1 (continued)

Offender	Case summary	Last resort behavior(s)	Detail	Publication
Jimmy Lee Dykes, Midland City, Alabama, United States (2013)	Murdered school bus driver and took hostage a 5-year-old. Six-day standoff with law enforcement	Expressed time imperative Expressed violent action imperative	<ul style="list-style-type: none"> • He concluded that alternatives to violence had not worked: "The time for dialogue is over" and, quoting Napoleon, "He who saves the country violates no law." • During his trial, "I did this out of goodness, not evil. I acted in self-defense on behalf of my people, my city, my country. I would have done it again." • Statements in both the demand note and on the bus video: "C'mon, I don't have any time, the Goddamn law's comin'" and "P. S. Thanks Chuck, I'm extremely sorry, but I have to do this. Please don't make me do something I don't want to do!" • Manifesto: "This was a necessary evil that had to be executed in order for me to obtain my NAME back. The only thing that changes policy and garners attention is death." • A message on his personal computing device read, "Ultra low frequency attack is what I've been subject to for the last 3 months. And to be perfectly honest, that is what has driven me to this." • Less than a month before the attack, Alexis was seen at an emergency room complaining of insomnia. Five days later, he sought treatment for insomnia at a different emergency room, where he told doctors he was not depressed and was not thinking of harming others. In both cases, doctors prescribed Trazodone, widely used for depression and insomnia, but contra-indicated for psychosis. • Manifesto: "I didn't start this war. ... I wasn't the one who struck first. ... But I will finish it by striking back. I will punish everyone. And it will be beautiful. Finally, at long last, I can show the world my true worth." • Pettersson could not tolerate Sweden anymore. He felt he was being forced to do something and was convinced that the attack was his only alternative: "The blood is on your hands." The triggering event was the imminent loss of his temporary employment. • He wrote a digital letter to a friend to say farewell less than an hour before the attack: "I'm going to be dead in the next hour or two. I really don't want to survive the rampage." 	Amman and MacKizer (2017, p. 84)
Christopher Dornier, Southern California (2013)	Spree shooting attacks, killing four and wounding three	Expressed violent action imperative		Joint Regional Intelligence Center Bulletin (2013)
Aaron Alexis, Washington, DC, United States (2013)	Mass attack on the Washington Navy Yard, killing 12 and wounding 3	Expressed violent action imperative in the context of psychosis (paranoid schizophrenia) Depressive symptoms including insomnia		Botelho and Sterling (2013) Vogel et al. (2013)
Elliot Rodger, Isla Vista, California, United States (2014)	Spree stabbing and shooting attacks: killing six and wounding 14	Expressed violent action imperative		White (2017)
Anton Pettersson, Trollhatten, Sweden (2015)	Mass stabbing attack, killing three and wounding one	Expressed violent action imperative Farewell messaging		Erlansson and Meloy (2018)

(table continues)

Table 1 (continued)

Offender	Case summary	Last resort behavior(s)	Detail	Publication
Robert Bowers, Pittsburgh, Pennsylvania, United States (2018)	Mass shooting at Tree of Life synagogue, killing 11 and wounding 6	Expressed violent action imperative	Posted online: "I can't sit by and let my people get slaughtered. Screw your optics, I'm going in."	Kupper and Meloy (2021)
Tobias Rathjen, Hanau, Germany (2020)	Spree shooting attack, killing 9 and wounding 6	Expressed violent action imperative Time imperative only directed at his readers	Manifesto: "For all of the above stated reasons, I had no choice but to act as I did in order to gain the necessary attention. This war is to be understood as a double strike against the secret organization and against the degeneration of our nation." "If you don't believe the following, you better wake up quick. ... Wake up! ... The second step is action, locate these bases, gather masses of people together, and storm them. It's your duty as an American citizen to end this nightmare. Fight now." • Manifesto: "But I can't wait anymore. I must do what has to be done. I must fight back. I must strike against ZOG. If I have to do it alone, then so be it. I am content with fighting alone." • Email to supporters shortly before the incursion: "TODAY will be a historic day in our Nation's history. Congress will either certify, or object to, the Election results. Every single Patriot from across the Country must step up RIGHT NOW if we're going to successfully DEFEND the integrity of this Election." • A follow-up email: "TODAY. This is our LAST CHANCE. The stakes have NEVER been higher. President Trump needs YOU to make a statement and publicly stand with him and FIGHT BACK."	Kupper, Cotti, et al. (2023)
Juraj Krajčík, Bratislava, Slovakia (2022)	Shooting attack targeting an LGBTQ+ community venue. 2 killed, 1 wounded	Expressed violent action imperative		Kupper, Rekawek, et al. (2023)
Donald Trump Campaign, Washington, DC, United States (2021)	Extremist group attack on the U.S. Capitol during a session of Congress with the intent to halt the session	Expressed time imperative		Emails sent out by Trump campaign on January 6, 2021.

Note. LGBTQ+ = lesbian, gay, bisexual, transgender, queer/questioning, others.

Table 2
Frequency of Last Resort Proximal Warning Behavior Among Targeted Attackers

Title of study	Authors and publication year	Subjects	Percentage
German school shooters	Meloy, Hoffmann, Roshdi, and Guldemann (2014)	$N = 9$	78
German nonterrorist public figure attackers	Hoffmann et al. (2011)	$N = 14$	46
U.S. presidential and political attackers	Meloy, Hoffmann, Roshdi, and Guldemann (2014)	$N = 18$	39
German intimate partner homicide offenders	Glaz-Ocik and Hoffmann (2011)	$N = 70$	62
German adult mass murderers	Allwinn et al. (2019)	$N = 33$	98
Lone-actor terrorists in the United States and Europe	Meloy and Gill (2016)	$N = 111$	28
Lone-actor terrorists in North America	Meloy et al. (2019)	$N = 33$	79
European individual terrorists	Meloy, Roshdi, et al. (2015)	$N = 22$	100
German jihadist terrorists	Böckler et al. (2020)	$N = 20$	65
Targeted violence manifestos	Kupper and Meloy (2021)	$N = 30$	87
U.S. sovereign citizen terrorists	Challacombe and Lucas (2019)	$N = 30$	29
U.S. Capitol violent attackers January 6 Manifestos	Challacombe and Patrick (2023)	$N = 51$	44
Manifestos	Slemaker (2023)	$N = 27$	50
Sovereign citizens	Vargen and Challacombe (2023)	$N = 68$	46

Note. $N = 536$; $M = 60\%$; range = 28%–100%.

national security concern who did not commit a subsequent attack. Despite the difficulties and limitations of such a study—most notably access to a nonattacking sample—the results confirmed that the TRAP-18 could significantly distinguish between attackers and nonattackers. Last resort data indicated that 79% of the attackers versus 21% of the nonattackers evidenced this proximal warning behavior with a large effect size ($\phi = 0.57$). Pathway, identification, energy burst, and directly communicated threat also discriminated between the groups with medium to large effect sizes—although directly communicated threat was *inversely* related to an attack. This study further confirmed the robust finding that direct threats are typically *negatively* correlated with a targeted attack (Meloy & Hoffmann, 2021), with the exception of domestic violence.

A multidimensional scaling analysis of the same data set (Goodwill & Meloy, 2019) found that the proximal warning behaviors, including last resort, generally clustered together among the attackers, not among the nonattackers. They wrote,

The findings of this MDS study quantitatively support the theoretical model that there are two superordinate factors—proximal warning behaviors and distal characteristics—in the TRAP-18. They also support a theory of risk for lone actor terrorists: proximal warning behaviors are present among attackers, and largely absent among non-attackers, yet distal characteristics are evident in both attackers and non-attackers; the latter group are persons of concern to the threat assessor who

should closely monitor them to see if any proximal warning behaviors appear. (p. 533)

In the nonterrorist domain, a study of 33 German mass murderers that same year (Allwinn et al., 2019) found that last resort warning behavior was present in 100% of the psychotic offenders and 95% of the nonpsychotic offenders. There were no significant differences between these two subgroups. However, another European study found difficulties in coding the TRAP-18 indicators when comparing European ($n = 38$) and the United States ($n = 35$) jihadism-inspired lone-actor terrorists based solely on open-source information; the U.S. sample had a higher average number of TRAP-18 items coded (Brugh et al., 2023). In another European study of radicalization among the mentally ill in Spain, TRAP-18 results indicated high predictive validity ($AUC = 1.0$, $p = .018$) in a small sample ($n = 44$) of socially isolated psychiatric patients with a prison history (Garcia-Andrade et al., 2019).

Meanwhile, an independent research group investigated sovereign citizens, an antigovernment nationalist collective in the United States, with the TRAP-18 in two studies (Challacombe & Lucas, 2019; Vargen & Challacombe, 2023). In the first study (Challacombe & Lucas, 2019), subjects ($n = 30$) who planned or committed violent actions were compared to subjects ($n = 28$) who committed nonviolent criminal actions. Cohen's κ for reliability across all the indicators was

excellent at 0.757. Last resort was significantly and positively related to violence and had the strongest effect size among the proximal warning behaviors ($\phi = .70$, $p = .000$, 29% vs. 9% frequency). A binary regression analysis correctly classified 75.9% of the overall sample. This was the first postdictive study of a U.S. domestic terrorism group. In the second study (Vargen & Challacombe, 2023), the sovereign citizen sample was increased to 107 cases, and the TRAP-18 was coded alongside the HCR-20 V3 Historical scale. Higher coding on both instruments was associated with greater odds of being violent. Most compelling was the coding of the indicators in both instruments prior to (a pseudo-prospective design) and after the index offense—although limitations of this design are noted by the authors. For last resort proximal warning behavior, the preindex offense coding was significantly different (18% violent vs. 3% nonviolent, $p < .05$); as well as the postindex offense coding (46% vs. 9.1%, $p < .05$). They wrote, “a significantly greater proportion of violent cases demonstrated pathway behaviors, fixation, perceiving themselves to be in a position of last resort, and personal grievance and moral outrage than did non-violent cases” (p. 14). In terms of relative performance, the proximal warning behaviors “yielded the largest increase in the odds of the case being violent” (p. 16) when compared to the overall TRAP indicators, the TRAP distal characteristics, and the HCR-20 V3 Historical scale. Preindex TRAP-18 total scores were also significantly associated with increased odds of a case being categorized as violent (sensitivity = 74%, specificity = 63.6%, Positive Predictive Value, PPV = 75.5%, Negative Predictive Value, NPV = 61.8%).

A third study (Challacombe & Patrick, 2023) applied the TRAP-18 to a large group of extremists (the January 6 U.S. Capitol attackers) to see if the instrument could postdict who would or would not be charged with a violent offense. It did. Random draws of those charged with nonviolent ($n = 50$) versus violent offenses ($n = 51$) were compared. The average Cohen’s κ was 0.80. Last resort proximal warning behavior was apparent in slightly less than half the subjects, and there were no significant differences between the violent and nonviolent samples; however, pathway was the strongest predictor of violence, while identification also discriminated between the violent and nonviolent groups—and fixation

did not. Despite the difficulty of information access, the TRAP-18 was able to correctly classify who would or would not be violent 71.3% of the time in a binary regression analysis ($p < .002$). This was the first study to explore the validity of the TRAP-18 among a large group of extremists rather than its original purpose, the assessment of risk among lone actors. Such work suggests the generalizability of the TRAP-18 to both lone actors and large group-based individuals.

Meloy, Goodwill, et al. (2021) published a time sequence analysis of 125 lone-actor terrorists in North America and Europe. Such a methodology, rarely done in the psychological or criminological literature, allowed for the sequencing of TRAP-18 proximal warning behaviors and distal characteristics across time, identifying which indicators precede, and which indicators follow, other indicators. The results of the study, using proximity coefficients, empirically indicated that distal characteristics generally preceded proximal warning behaviors—what the TRAP-18 model originally proposed. Among the proximal warning behaviors that were in the closest time sequence to an attack were last resort, pathway, identification, and leakage warning behaviors.

Böckler et al. (2020) compared German jihadists imprisoned for violent acts of terrorism ($n = 20$) with jihadists imprisoned for nonviolent acts ($n = 60$). Last resort warning behavior was significantly more frequent among the violent jihadists (65%) when compared to the nonviolent jihadists (11%), with a large effect size ($\phi = 0.55$, $p < .001$); pathway, novel aggression, and energy burst were also significantly more frequent. Böckler et al. (2020) also did several ROC analyses and produced an ROC-weighted curve for the proximal warning behaviors. This analysis yielded a sensitivity = .80, specificity = .93, positive predictive power = .80, negative predictive power = .93, and AUC = .90. They wrote,

The “last resort” warning behavior in the majority of violent perpetrators can be explained by the fact that the decision to commit a violent act functions as a kind of “exit strategy” in the subjective logic of the perpetrator. In light of a seemingly hopeless situation, the act enables the perpetrator to make a glorious exit from life. (pp. 166–167).

An important alternative analysis that contributes to the management of the threat of targeted violence is forensic linguistics. In two studies, Kupper and Meloy (2021) and Kupper, Christensen, et al.

(2022) applied forensic linguistic analysis to the writings of lone-actor terrorists, utilizing the lens of the TRAP-18 in the first study (Kupper & Meloy, 2021). An analysis of 30 targeted violence manifestos found last resort was present in 87% of the subjects' productions. There were no significant differences when comparing written versus spoken manifestos nor ideologically motivated versus grievance-fueled manifestos (Kupper & Meloy, 2021). Across primary motivations, jihadism had the least frequent last resort warning behaviors. Jihadists may less often experience or anticipate an individual triggering event; they are instead primarily motivated by the drive to join other shaheeds and "ascend in the storm" through their own acts of violence against the unbelievers (Meloy, 2018; Meloy et al., 2001). In another study of the manifestos of mass shooters ($n = 23$ subjects; 27 manifestos), half of the subjects evidenced last resort warning behavior (Slemaker, 2023).

The results of this review of all comparative and postdictive studies to date indicate that the majority have found that last resort postdicts violence with a large effect size, although the sample sizes are relatively small, thus expanding the confidence intervals for the findings. Some studies showed no difference between attackers and nonattackers for last resort; however, all studies showed the presence of last resort among the attacker group, with frequencies varying as indicated in Table 2 and averaging 60% with a large variance. The three most validated, proximal warning behaviors for postdiction of a targeted attack are pathway, identification, and last resort. These results are promising, but more research needs to be done, especially prospective studies.

Individual case studies of the proximal warning behaviors among lone-actor terrorists have also been conducted and are listed in Table 3.

The case study findings indicate that among the 11 publications, nine of the individuals evidenced last resort warning behavior, for a frequency of 82%. This frequency is noticeably greater than the average large group data in Table 1 and may be due to the deeper analysis done for each of these cases. However, this sample size is very small, and conclusions must be drawn with great care.

Triggers or Precipitants of Last Resort

Last resort warning behavior is often preceded by a triggering or precipitating event (Amman & Meloy, 2021). Such events may include those in

Table 3

Published Case Studies of Targeted Attackers and Last Resort Behavior

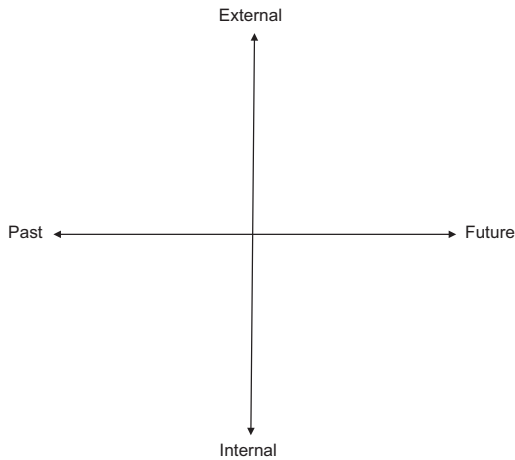
Case studies	Last resort
Jihadism	
Fort Hood shooting in 2009, Malik Nidal Hasan (Meloy & Genzman, 2016)	X
Frankfurt Airport attack in 2011, Arid Uka (Böckler et al., 2015)	X
Berlin Christmas market attack in 2016, Anis Amri (Böckler et al., 2017)	X
Little Rock recruiting office shooting in 2009, Abdulhakim Muhammad (Tassin & Allely, 2022)	
Race and/or ethnicity	
Norway attacks in 2011, Anders Breivik (Meloy, Habermeyer, et al., 2015)	X
Trollhättan school attack in 2015, Anton Pettersson (Erlandsson & Meloy, 2018)	X
Foiled U.S. Coast Guard attack, Christopher Hasson (Dmitrieva & Meloy, 2022)	
Involuntarily celibates (incel)	
Tallahassee yoga studio attack in 2018, Scott Beierle (Collins & Clark, 2021)	X
Mental illness	
Hanau terrorism attack in 2020, Tobias Rathjen (Kupper, Cotti, et al., 2023)	X
Antigovernment/law enforcement	
Oklahoma City bombing in 1995, Timothy McVeigh (Meloy & Holzer, 2022)	X
Spree killings in Southern California in 2013, Christopher Dorner (Joint Regional Intelligence Center Bulletin, 2013)	X

the *personal realm*, such as significant material, relational, or status losses in the domains of family, intimate/peer, social or occupational, or self-image (Amman et al., 2017; Silver et al., 2018); or in the *ideological realm*, such as demagogic or inciting rhetoric (Amman & Meloy, 2021), a call to jihadist violence by a terrorist group, an intolerable act or perceived victory by an out-group in the eyes of an extremist group or single adherent (Berger, 2018); or an idiosyncratic event the significance of which is known or understood only to the individual.

But are there events—either intrapsychic or interpersonal—that specifically trigger last resort thinking? Case experience has led to the formulation in Figure 1.

It appears that triggers for last resort are best conceptualized along two dimensions: internal–external and past–future. For example, Malik Nidal Hasan, the Ft. Hood mass murderer (Meloy & Genzman, 2016), had an external and future event that appears to have triggered his last

Figure 1
Analysis of Precipitants or Triggers of Last Resort Warning Behavior



resort thinking and behavior: He was about to be deployed to Afghanistan despite every nonviolent effort on his part to not be sent as a psychiatrist to care for U.S. military personnel who were waging war against his “brothers,” the Taliban. On the other hand, Timothy McVeigh, the Oklahoma City bomber, was motivated to his last resort thinking by his witnessing of the catastrophic interventions of the U.S. government at Ruby Ridge, Idaho, and Waco, Texas, in 1992–1993 (past and external), as well as his grandiose belief that he would be the first hero of the Second American Revolution (future and internal; first author’s files; Toobin, 2023). This conceptualization can be used by threat assessors to search for any internal, often psychological triggers, as well as any actual events in the person’s life, that may lead to last resort thinking; as well as whether these triggers have already happened, or *are being anticipated*, by the subject of concern. This may result in a lengthy list of “potentials,” as is often the case in threat assessment. It is standard practice for threat assessment professionals to try to project both triggering events and the what/where/when/how of violent attacks which may occur. This conceptualization may further assist in such scenario planning. It may also be possible to craft management strategies around anticipated triggers in order to stabilize the person of concern’s attitudes and/or identify potential off-ramps.

The anticipation of a triggering event can also be manipulated by political leaders and other

people of influence, such as celebrities with a large online following; they can paint an imminent, existential threat and its rapid, dark descent onto their followers, necessitating immediate hostile action against the threat. Among the narrow exceptions to the First Amendment protection of speech in the U.S. Constitution, such rhetoric may be considered incitement to violence and may provoke stochastic terrorism by members of the group (Amman & Meloy, 2021, 2022). Last resort thinking frames a call to action. The victims become the soldiers.

Last Resort and Apocalypticism

Apocalypticism is the belief that the end of the world is imminent and holds within it the time compression and urgency—and often mandated violence—we see within the warning behavior of last resort. Rather than focusing on life after death *beyond* this world, such beliefs center on the intervention of a cataclysmic force *into* the world that will define the ultimate destiny of humankind. Apocalypticism is found in the writings concerning eschatology—the part of theology focused upon death and judgment, and the final destiny of the soul—, as well as the concepts of the “end times” and “millenarianism,” a belief in the imminency of a 1000-year reign of blessedness; for example, in Christianity, such a period is believed to eventually herald the second coming of Christ and the apocalypse. It is not always religious, however, and the term can be utilized to describe sudden and often catastrophic global scenarios involving science, disease, technology, political discourse, and conspiracy theories. The contemporary belief in the Great Replacement—there is a conspiracy afoot, engineered by Jews and evident in global birth rates, to replace all White individuals with people of color—, is an example of the latter.

Apocalyptic beliefs can be found in all three of the Abrahamic religions, including Christianity (Seventh-day Adventism, Mormonism, Jehovah’s Witnesses, Evangelical Christianity); the Biblical New Testament Book of Revelations); Islam (The Day of Judgment, Yawm al-Qiyamah), and Judaism (“end of days,” the prophets Isaiah, Jeremiah, and Ezekiel). Ancient Norse religion speaks to the Ragnarok (“doom of the gods”), the end of the world of gods and men (Greisiger, 2015).

Giants and demons approaching from all points of the compass will attack the gods, who will meet them and face death like heroes. The sun will be darkened, the stars will vanish, and the earth will sink into the sea. Afterward, the earth will rise again, the innocent Balder will return from the dead and the hosts of the just will live in a hall roofed with gold. (<https://www.Britannica.com/event/Ragnarok>)

Such beliefs have defined and magnified the personal commitments and pronouncements of a number of contemporary leaders of extremist groups, as well as the group identities themselves. David Koresh, the self-proclaimed messiah and leader of the Branch Davidians in Waco, Texas, preached the end of days according to the Biblical revelation of the fifth seal, which contributed to a conflagration involving the ATF/FBI on April 19, 1993, in which 76 individuals died. Invoking time compression, he told his followers, “Behold, the Devil is about to throw some of you into prison, that you be tested. Be faithful unto death” (Cook, 2023). Jim Jones, proclaiming himself the messiah of the Peoples’ Temple, convinced his followers in the jungle of Guyana to participate in a mass cyanide suicide to uphold communism in the face of an imminent threat from the U.S. government; this event claimed the lives of at least 913 individuals on November 18, 1978, known historically as the Jonestown massacre. Marshall Applewhite, cofounder of the cult Heaven’s Gate, convinced his followers that the approaching Hale–Bopp comet was the “last chance to evacuate Earth” (Zeller, 2006, p. 86) in the face of a government conspiracy against them and their misanthropy: “we do in all honesty hate this world” (Partridge, 2006, p. 55). Over 3 days in March 1997, 39 people, including Applewhite, committed suicide through a combination of barbiturates, alcohol, and suffocation. They wore Nike shoes and black uniforms, with arm patches that read, “Heaven’s Gate Away Team” (see Wallenborn & Meloy, 2023, for a detailed analysis of psychopathy and cults). Various accelerationist groups, such as the Order of the Nine Angles, believe that they should advance the coming apocalypse through their own violence against the social order. Accelerationism is an increasingly apparent belief system emerging from the extreme right ethnostate terrorist groups, including various Neo-Nazi adherents in the United States and other groups in Europe (accresearch.org; Dittrich et al., 2022). In each case, the narcissism of the leader is burnished by

his belief that he is an agent or a soldier of a higher power (political doctrine or godhead), and his behaviors are sanctified (Meloy, 1986; Roy et al., 2022) by such an authority. The followers are at once believers in their own specialness and their own persecution. These misperceptions—signaling both urgency and often imminency—typically foretell the deaths of many through passive acceptance of the end time and their suicides, or active participation in a violent apocalyptic event (Meloy, 2018). They must act and they must act now.

Relationship to Mental Disorder and Depression

Although last resort is never considered a mental health diagnosis, the thinking or behaviors of last resort may be embedded within, or at least facilitated by, a variety of diagnosable cognitive–perceptual disorders (such as schizophrenia) or affective dysregulation disorders (such as major depression).

Depression is known as an important risk factor for suicide but is also correlated with violence toward others. Fazel et al. (2015) reported a two to three times increased violence risk toward others among more than 45,000 depressed individuals compared to healthy controls after controlling for other factors. Depressed individuals exhibit (among other symptoms) negative, black-and-white thinking patterns, reduced cognitive flexibility and problem-solving skills, and diminished self-worth. They often feel sad, overwhelmed, without deep connection to other people, and hopeless. Noteworthy is the concept of “arrested flight.” It was adopted from evolutionary psychology to describe behavioral states observed in depressed individuals (O’Connor & Kirtley, 2018). Arrested flight describes the experience of feeling as though one has been brought down (defeated) and has no prospect of escape or rescue (entrapment; Gilbert & Allan, 1998). The Seligman (1972) research on “learned helplessness” was the earliest work to empirically define and measure such a state of mind. This “tunnel vision” can make acts like suicide seem like the only alternative (Shneidman, 1993).

Generally, humans have a strong will for their own survival. It is also usually hard for them to kill someone from their own species (Joiner, 2014). Last resort—potentially facilitated through

depressive symptoms and embedded in other relevant case-specific factors—serves as a bridge to suicidal, homicidal, or homicidal–suicidal acts.

Joiner (2014) subsumes murder–suicide in the category of suicide, not murder. He describes the interrelation between the concepts as follows: While many people may be able to take someone else’s life, they may not have the ability to end their own. Applying the same logic, virtually all individuals who are capable of killing themselves can also kill others (Joiner, 2014).

Paying attention to depressive symptoms and suicidality is therefore highly warranted. A final caution refers to the concept of “male depression,” which has important implications for last resort. Depressed males may experience and exhibit different symptoms and behaviors, potentially influenced by conformity to masculine norms (Rice et al., 2022). For instance, males with depression may display higher levels of anger, irritability, alcohol/drug abuse, somatic symptoms, risk-taking, and impulse control problems compared to females with depression (American Psychiatric Association, 2022; Rice et al., 2022). These externalized coping strategies may lead threat assessors and health professionals to overlook the underlying depressive disorder (Steinau et al., 2020), resulting in a potential failure to identify an increased risk of violence. Consequently, the opportunity for appropriate treatment may be lost for these individuals. Suicide prevention is therefore also murder–suicide prevention (Joiner, 2014). Current violence risk assessments do include suicidality (major mental disorders such as depression) as a violence risk factor (WAVR-21; see White & Meloy, 2016). The Risk of Suicide Protocol (Gray et al., 2021) also integrates violent behavior as a risk factor for suicide.

Like the proximal warning behavior of fixation, last resort can also be driven by delusions, extreme overvalued beliefs (Rahman et al., 2021), or rarely, obsessions. In the context of threat management, the task of diagnosis and refined understanding of such cognitive–affective drivers should only be shouldered by the mental health clinician who is a member of the multidisciplinary team. However, in the initial *assessment* of risk, the presence of last resort warning behavior should signal immediate action—the threat may be imminent—and quibbling about the correct diagnosis should not be the priority and should not forestall action. For ongoing *management* of the case, the correct diagnosis is

very important since it may involve psychiatric treatment and medications based on an understanding of a person’s individualized internal state.

Limitations

There are a number of limitations to this study. First, the likely presence of bias on the part of the authors to advance the concept of last resort since three of them were the coauthors of the original article (Meloy et al., 2012). Such biases could include confirmation bias (the minimization of negative findings, such as the 40% of targeted attackers who did not show last resort), allegiance bias (the desire to advance the concept), and hindsight bias (the dependence on retrospective studies). Research is also most trustworthy when it has been conducted by individuals completely independent of the original concept or theory (Neal et al., 2022). The majority of the studies which measured last resort and are cited in this article included one of the authors as a researcher.

Validation is also problematic in the sense that there are many types of validation—construct, content, face, criterion, predictive, concurrent, discriminant, convergent, external, internal, ecological, and so forth—and the research to date has only supported a few of these validation tests and with a limited number of studies. As in all scientific research, there is never an absolute outcome or a final endpoint, only cautious advancements.

And finally, the length of the article is noteworthy. As President Abraham Lincoln said, “I could write shorter sermons, but when I get started I’m too lazy to stop.”

Closing Comments

Last resort behavior centers around the idea of taking previously unconsidered action to solve an otherwise unsolvable crisis before it is too late or impossible. Under the umbrella of a violent action and time imperative, various manifestations of thinking, emotion, and/or behaviors may occur. Rooted in psychology, the last resort appears to find grounding in a variety of diagnosable disorders, perhaps most particularly within the various depressive conditions. It may hold relevance regardless of the scope of the case—from one-on-one, interpersonal violence to apocalypticism and mass suicide. Triggering events are thought to hasten an actor’s journey toward last resort and can be conceptualized

along two dimensions: internal–external and past–future. Such triggers or precipitating events in a would-be offender may be a result of events within his or her intrapsychic or interpersonal life, or they may be provoked by demagogic leaders or other malevolent actors leveraging a public platform to inflame the masses.

This warning behavior in particular has been found to correlate with, and in some cases, postdict targeted violence across a number of studies highlighted in this article, but more research is always needed. It holds a place among the three proximal warning behaviors most indicative of a targeted attack: pathway, identification, and last resort.

O light! This is the cry of all the characters of ancient drama brought face to face with their fate. This last resort was ours, too, and I knew it now. In the middle of winter I at last discovered that there was in me an invincible summer.

—Albert Camus

References

- Allely, C., & Wicks, S. (2022). The feasibility and utility of the Terrorist Radicalization Assessment Protocol (TRAP-18): A review and recommendations. *Journal of Threat Assessment and Management*, 9(4), 218–259. <https://doi.org/10.1037/tam0000179>
- Allwinn, M., Hoffmann, J., & Meloy, J. R. (2019). German mass murderers and their proximal warning behaviors. *Journal of Threat Assessment and Management*, 6(1), 1–22. <https://doi.org/10.1037/tam0000122>
- American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., revised).
- Amman, M., Bowlin, B., Buckles, L., Burton, K. C., Brunell, K. F., Gibson, K. A., Griffin, S. H., Kennedy, K., & Robins, C. J. (2017). *Making prevention a reality: Identifying, assessing, and managing the threat of targeted violence*. Federal Bureau of Investigation.
- Amman, M., & MacKizer, M. (2017). A crisis threat assessment: The boy in the bunker. *Journal of Threat Assessment and Management*, 4(2), 77–97. <https://doi.org/10.1037/tam0000081>
- Amman, M., & Meloy, J. R. (2021). Stochastic terrorism: A linguistic and psychological analysis. *Perspectives on Terrorism*, 15(5), 2–13.
- Amman, M., & Meloy, J. R. (2022). Incitement to violence and stochastic terrorism: Legal, academic, and practical parameters for researchers and investigators. *Terrorism and Political Violence*. Advance online publication. <https://doi.org/10.1080/09546553.2022.2143352>
- Barry-Walsh, J., James, D. V., & Mullen, P. E. (2020). Fixated threat assessment centers: Preventing harm and facilitating care in public figure threat cases and those thought to be at risk of lone-actor grievance-fueled violence. *CNS Spectrums*, 25(5), 630–637. <https://doi.org/10.1017/S1092852920000152>
- Berger, J. M. (2018). *Extremism*. MIT Press. <https://doi.org/10.7551/mitpress/11688.001.0001>
- Böckler, N., Allwinn, M., Metwaly, C., Wypych, B., Hoffmann, J., & Zick, A. (2020). Islamist terrorists in Germany and their warning behaviors: A comparative assessment of attackers and other convicts using the TRAP-18. *Journal of Threat Assessment and Management*, 7(3–4), 157–172. <https://doi.org/10.1037/tam0000150>
- Böckler, N., Hoffmann, J., & Meloy, J. R. (2017). “Jihad against the enemies of Allah:” The Berlin Christmas market attack from a threat assessment perspective. *Violence and Gender*, 4(3), 73–80. <https://doi.org/10.1089/vio.2017.0040>
- Böckler, N., Hoffmann, J., & Zick, A. (2015). The Frankfurt airport attack: A case study on the radicalization of a lone actor terrorist. *Journal of Threat Assessment and Management*, 2(3–4), 153–163. <https://doi.org/10.1037/tam0000045>
- Borum, R., Fein, R., Vossekuil, B., & Berglund, J. (1999). Threat assessment: Defining an approach for evaluating risk of targeted violence. *Behavioral Sciences & the Law*, 17(3), 323–337. [https://doi.org/10.1002/\(SICI\)1099-0798\(199907/09\)17:3<323::AID-BSL349>3.0.CO;2-G](https://doi.org/10.1002/(SICI)1099-0798(199907/09)17:3<323::AID-BSL349>3.0.CO;2-G)
- Botelho, G., & Sterling, J. (September 26, 2013). FBI: Navy Yard shooter “delusional,” said “low frequency attacks” drove him to kill. *CNN.com*. Retrieved May 31, 2023, from https://edition.cnn.com/2013/09/25/us/washington-navy-yard-investigation/?hpt=us_c2
- Brugh, C., Desmarais, S., & Simons-Rudolph, J. (2023). Application of the TRAP-18 framework to U.S. and Western European lone actor terrorists. *Studies in Conflict and Terrorism*, 46(2), 183–208. <https://doi.org/10.1080/1057610X.2020.1758372>
- Calhoun, F., & Weston, S. (2003). *Contemporary threat management*. Specialized Training Services.
- Calhoun, F., & Weston, S. (2016). *Threat assessment and management strategies*. CRC Press. <https://doi.org/10.1201/b19689-2>
- Challacombe, D. J., & Patrick, C. (2023). The January 6th insurrection at the U.S. Capitol: What the TRAP-18 can tell us about the participants. *Journal of Threat Assessment and Management*, 10(3), 220–228. <https://doi.org/10.1037/tam0000194>
- Challacombe, D. J., & Lucas, P. A. (2019). Postdicting violence with Sovereign Citizen actors: An exploratory test of the TRAP-18. *Journal of Threat Assessment and Management*, 6(1), 51–59. <https://doi.org/10.1037/tam0000105>

- Collins, C., & Clark, J. (2021). Using the TRAP-18 to identify an incel lone-actor terrorist. *Journal of Threat Assessment and Management*, 8(4), 159–173. <https://doi.org/10.1037/tam0000167>
- Cook, K. (2023). *Waco rising: David Koresh, the FBI, and the birth of America's modern militias*. MacMillan.
- Cornish, J., Murray, K., & Collins, P. (1999). *The criminal lawyers' guide to the law of criminal harassment and stalking*. Canada Law Book.
- Correia, L. (2011). *Monster hunter alpha*. Baen.
- De Becker, G. (1997). *The gift of fear*. Random House.
- Dittrich, M., Rathje, J., Manemann, T., & Muller, F. (2022). *Militant accelerationism: Origins and developments in Germany*. Center for Monitoring, Analysis and Strategy. <https://cemas.io/en/publications/militant-accelerationism/>
- Dmitrieva, A., & Meloy, J. R. (2022). Troubled waters: Domestic terrorism threat in the U.S. Coast Guard and the TRAP-18. *Journal of Threat Assessment and Management*, 9(3), 153–170. <https://doi.org/10.1037/tam0000170>
- Douglas, K., Hart, S., Webster, C., & Belfrage, H. (2013). *HCR-20 V3. Assessing risk for violence*. Mental Health, Law and Policy Institute, Simon Fraser University.
- Erlandsson, Å., & Meloy, J. (2018). The Swedish school attack in Trollhattan. *Journal of Forensic Sciences*, 63(6), 1917–1927. <https://doi.org/10.1111/1556-4029.13800>
- Fazel, S., Wolf, A., Chang, Z., Larsson, H., Goodwin, G. M., & Lichtenstein, P. (2015). Depression and violence: A Swedish population study. *The Lancet Psychiatry*, 2(3), 224–232. [https://doi.org/10.1016/S2215-0366\(14\)00128-X](https://doi.org/10.1016/S2215-0366(14)00128-X)
- Garcia-Andrade, R., Rendon-Luna, B., Prieto, B., Martinez, V., de Meneses, E., & Rodriguez, E. (2019). Forensic psychiatric assessment of the risk of terrorist radicalisation in the mentally ill patient. *Spanish J Legal Medicine*, 45(2), 59–66. <https://doi.org/10.1016/j.remle.2019.01.003>
- Gibson, J. (1994). *Warrior dreams*. Hill and Wang.
- Gilbert, P., & Allan, S. (1998). The role of defeat and entrapment (arrested flight) in depression: An exploration of an evolutionary view. *Psychological Medicine*, 28(3), 585–598. <https://doi.org/10.1017/S0033291798006710>
- Glaz-Ocik, J., & Hoffmann, J. (2011). Gewaltdynamiken bei Tötungsdelikten an der Intimpartnerin. In C. Lorei (Ed.), *Polizei & Psychologie* (Vol. 2009, pp. 263–286). Verlag für Polizeiwissenschaft.
- Goodwill, A., & Meloy, J. R. (2019). Visualizing the relationship among indicators for lone actor terrorist attacks: Multidimensional scaling and the TRAP-18. *Behavioral Sciences & the Law*, 37(5), 522–539. <https://doi.org/10.1002/bsl.2434>
- Grammarist.com. (2023). *Last resort—origin & meaning*. Retrieved September 2, 2023, from <https://grammarist.com/idiom/last-resort/>
- Gray, N. S., John, A., McKinnon, A., Raybould, S., Knowles, J., & Snowden, R. J. (2021). Structured professional judgment to assist the evaluation and safety planning of suicide risk: The risk of suicide protocol (RoSP). *Frontiers in Psychiatry*, 12, Article 607120. <https://doi.org/10.3389/fpsy.2021.607120>
- Greisiger, L. (2015). Apocalypticism, millenarianism, and messianism. In M. Blidstein, A. Silverstein, & G. Stroumsa (Eds.), *The Oxford handbook of the Abrahamic religions* (pp. 272–294). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199697762.013.14>
- Guldumann, A., Brunner, R., & Habermeyer, E. (2021). Bedrohungsmanagement: Deeskalieren, bevor etwas passiert [Threat management: De-escalation before something happens]. *Forensische Psychiatrie, Psychologie, Kriminologie*, 15(3), 229–238. <https://doi.org/10.1007/s11757-021-00673-w>
- Guldumann, A., Brunner, R., Schmid, H., & Habermeyer, E. (2016). Supporting threat management with forensic expert knowledge: Protecting public officials and private individuals. *Behavioral Sciences & the Law*, 34(5), 645–659. <https://doi.org/10.1002/bsl.2254>
- Hatcher, C. (1998). *A method for assessing threatening communications* [Unpublished manuscript].
- Hoffmann, J., Meloy, J. R., Guldumann, A., & Ermer, A. (2011). Attacks on German public figures, 1968–2004: Warning behaviors, potentially lethal and non-lethal acts, psychiatric status, and motivations. *Behavioral Sciences & the Law*, 29(2), 155–179. <https://doi.org/10.1002/bsl.979>
- James, D. V., MacKenzie, R. D., & Farnham, F. R. (2014). *Communications threat assessment protocol-25: Guidelines for the initial assessment of problematic communications*. Theseus Risk Management.
- Joiner, T. (2014). *The perversion of virtue: Understanding murder-suicide*. Oxford University Press.
- Joint Regional Intelligence Center. (2013, May 30). *Christopher dorner: A "pseudo-commando" spree killer* (this bulletin is unclassified/FOUO and is available from the first author upon request to law enforcement).
- Koffka, K. (1935). *Principles of gestalt psychology*. Routledge.
- Kohler, W. (1925). An aspect of gestalt psychology. *The Pedagogical Seminary and Journal of Genetic Psychology*, 32(4), 691–723. <https://doi.org/10.1080/08856559.1925.9944846>
- Kupper, J., Christensen, T., Wing, D., Hurt, M., Schumacher, M., & Meloy, J. R. (2022). The contagion and copycat effect in transnational far-right terrorism:

- An analysis of language evidence. *Perspectives on Terrorism*, 16, 4–26.
- Kupper, J., Cotti, P., & Meloy, J. R. (2023). The Hanau terror attack: Unraveling the dynamics of mental disorder and extremist beliefs. *Journal of Threat Assessment and Management*. Advance online publication. <https://doi.org/10.1037/tam0000201>
- Kupper, J., & Meloy, J. R. (2021). TRAP-18 indicators validated through the forensic linguistic analysis of targeted violence manifestos. *Journal of Threat Assessment and Management*, 8(4), 174–199. <https://doi.org/10.1037/tam0000165>
- Kupper, J., Rekawek, K., & Kriner, M. (2023). *Terrorgram's first saint: Analyzing accelerationist terrorism in Bratislava*. Accelerationism Research Consortium.
- MacKenzie, R., McEwan, T., Pathe, M., James, D., Ogloff, J., & Mullen, P. (2009). *Stalking risk profile: Guidelines for the assessment and management of stalkers*. Center for Behavioural Science, Monash University.
- McEwan, T., Strand, S., MacKenzie, R., & James, D. (2017). *Screening assessment for stalking and harassment (SASH): Guidelines for application and interpretation*. StalkInc Pty.
- Meloy, J. R. (2018). Sexual desire, violent death, and the true believer. *Contemporary Psychoanalysis*, 54(1), 64–83. <https://doi.org/10.1080/00107530.2017.1414577>
- Meloy, J. R. (1986). Narcissistic psychopathology and the clergy. *Pastoral Psychology*, 35(1), 50–55. <https://doi.org/10.1007/BF01761334>
- Meloy, J. R. (2017). *Terrorist radicalization assessment protocol TRAP-18 users' manual 1.0*. Multihealth Systems.
- Meloy, J. R., & Fisher, H. (2005). Some thoughts on the neurobiology of stalking. *Journal of Forensic Sciences*, 50(6), 1472–1480. <https://doi.org/10.1520/JFS2004508>
- Meloy, J. R., & Genzman, J. (2016). The clinical threat assessment of the lone actor terrorist. *Psychiatric Clinics of North America*, 39(4), 649–662. <https://doi.org/10.1016/j.psc.2016.07.004>
- Meloy, J. R., & Gill, P. (2016). The lone actor terrorist and the TRAP-18. *Journal of Threat Assessment and Management*, 3(1), 37–52. <https://doi.org/10.1037/tam0000061>
- Meloy, J. R., Goodwill, A., Clemmow, C., & Gill, P. (2021). Time sequencing the TRAP-18 indicators. *Journal of Threat Assessment and Management*, 8(1–2), 1–19. <https://doi.org/10.1037/tam0000157>
- Meloy, J. R., Goodwill, A., Meloy, M. J., Amat, G., Martinez, M., & Morgan, M. (2019). Some TRAP-18 indicators discriminate between terrorist attackers and other subjects of national security concern. *Journal of Threat Assessment and Management*, 6(2), 93–110. <https://doi.org/10.1037/tam0000119>
- Meloy, J. R., Habermeyer, E., & Guldemann, A. (2015). The warning behaviors of Anders Breivik. *Journal of Threat Assessment and Management*, 2(3–4), 164–175. <https://doi.org/10.1037/tam0000037>
- Meloy, J. R., & Hoffmann, J. (Eds.). (2021). *International handbook of threat assessment* (2nd ed.). Oxford University Press. <https://doi.org/10.1093/med-psych/9780190940164.001.0001>
- Meloy, J. R., Hoffmann, J., Bibeau, L., & Guldemann, A. (2021). Warning behaviors. In J. R. Meloy & J. Hoffmann (Eds.), *International handbook of threat assessment* (2nd ed., pp. 45–67). Oxford University Press. <https://doi.org/10.1093/med-psych/9780190940164.003.0003>
- Meloy, J. R., Hoffmann, J., Guldemann, A., & James, D. (2012). The role of warning behaviors in threat assessment: An exploration and suggested typology. *Behavioral Sciences & the Law*, 30(3), 256–279. <https://doi.org/10.1002/bsl.999>
- Meloy, J. R., Hoffmann, J., Roshdi, K., Glaz-Ocik, J., & Guldemann, A. (2014). Warning behaviors and their configurations across various domains of targeted violence. In J. R. Meloy & J. Hoffmann (Eds.), *International handbook of threat assessment* (pp. 39–53). Oxford University Press.
- Meloy, J. R., Hoffmann, J., Roshdi, K., & Guldemann, A. (2014). Some warning behaviors discriminate between school shooters and other students of concern. *Journal of Threat Assessment and Management*, 1(3), 203–211. <https://doi.org/10.1037/tam0000020>
- Meloy, J. R., & Holzer, J. (2022). Threat assessment of lone actor terrorism. In J. Holzer, P. Recupero, P. Gill, & A. Dew (Eds.), *Lone-actor terrorism: An integrated framework* (pp. 330–342). Oxford University Press. <https://doi.org/10.1093/med/9780190929794.003.0025>
- Meloy, J. R., Mohandie, K., Hempel, A., & Shiva, A. (2001). The violent true believer: Homicidal and suicidal states of mind. *Journal of Threat Assessment*, 1(4), 1–15. https://doi.org/10.1300/J177v01n04_01
- Meloy, J. R., Mohandie, K., Knoll, J. L., & Hoffmann, J. (2015). The concept of identification in threat assessment. *Behavioral Sciences & the Law*, 33(2–3), 213–237. <https://doi.org/10.1002/bsl.2166>
- Meloy, J. R., & O'Toole, M. E. (2011). The concept of leakage in threat assessment. *Behavioral Sciences & the Law*, 29(4), 513–527. <https://doi.org/10.1002/bsl.986>
- Meloy, J. R., & Rahman, T. (2021). Cognitive-affective drivers of fixation in threat assessment. *Behavioral Sciences & the Law*, 39(2), 170–189. <https://doi.org/10.1002/bsl.2486>
- Meloy, J. R., Roshdi, K., Glaz-Ocik, J., & Hoffmann, J. (2015). Investigating the individual terrorist in Europe. *Journal of Threat Assessment and Management*, 2(3–4), 140–152. <https://doi.org/10.1037/tam0000036>

- Mohandie, K., & Duffy, J. (1999). First responder and negotiation guidelines with the paranoid schizophrenic subject. *FBI Law Enforcement Bulletin*, 68, 8–16.
- Mullen, P., James, D., Meloy, J. R., Pathé, M., Farnham, F., Preston, L., Darnley, B., & Berman, J. (2009). Fixation and the pursuit of public figures. *Journal of Forensic Psychiatry & Psychology*, 20(1), 33–47. <https://doi.org/10.1080/14789940802197074>
- Mullen, P., Pathé, M., & Purcell, R. (2000). *Stalkers and their victims*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139106863>
- Neal, T. M. S., Lienert, P., Denne, E., & Singh, J. P. (2022). A general model of cognitive bias in human judgment and systematic review specific to forensic mental health. *Law and Human Behavior*, 46(2), 99–120. <https://doi.org/10.1037/lhb0000482>
- O'Connor, R. C., & Kirtley, O. J. (2018). The integrated motivational-volitional model of suicidal behaviour. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1754), Article 20170268. <https://doi.org/10.1098/rstb.2017.0268>
- Partridge, C. (2006). The eschatology of heaven's gate. In K. Newport & C. Gribben (Eds.), *Expecting the end: Millennialism in social and historical context*. Baylor University Press.
- Pathé, M., Lowry, T., Haworth, D., Webster, D., Mulder, M., Winterbourne, P., & Briggs, C. (2015). Assessing and managing the threat posed by fixated persons in Australia. *Journal of Forensic Psychiatry & Psychology*, 26(4), 425–438. <https://doi.org/10.1080/14789949.2015.1037332>
- Rahman, T., Zheng, L., & Meloy, J. R. (2021). DSM-5 cultural and personality assessment of extreme overvalued beliefs. *Aggression and Violent Behavior*, 60, Article 101552. <https://doi.org/10.1016/j.avb.2021.101552>
- Rahmani, F., Hemmati, A., Cohen, S., & Meloy, J. R. (2019). The interplay between antisocial and obsessive-compulsive personality characteristics in cult-like religious groups: A psychodynamic decoding of the DSM-5. *International Journal of Applied Psychoanalytic Studies*, 16(4), 258–273. <https://doi.org/10.1002/aps.1634>
- Rice, S., Seidler, Z., Kealy, D., Ogrodniczuk, J., Zajac, I., & Oliffe, J. (2022). Men's depression, externalizing, and DSM-5-TR: Primary signs and symptoms or co-occurring symptoms? *Harvard Review of Psychiatry*, 30(5), 317–322. <https://doi.org/10.1097/HRP.0000000000000346>
- Roy, T., Mihura, J., Friedman, A., Nichols, D., & Meloy, J. R. (2022). The Last psychological evaluation of Charles Manson: Implications for personality, psychopathology, and ideology. *Journal of Threat Assessment and Management*, 10(3), 127–150. <https://doi.org/10.1037/tam0000197>
- Saha, P., Garimella, K., Kalyan, N. K., Pandey, S. K., Meher, P. M., Mathew, B., & Mukherjee, A. (2023). On the rise of fear speech in online social media. *Proceedings of the National Academy of Sciences*, 120(11), Article e2212270120. <https://doi.org/10.1073/pnas.2212270120>
- Seligman, M. E. (1972). Learned helplessness. *Annual Review of Medicine*, 23(1), 407–412. <https://doi.org/10.1146/annurev.me.23.020172.002203>
- Sharkey, A. (August 10, 2003). God called on me to kill. *The Sunday Telegraph*. <https://www.maryellemark.com/bibliography/magazines/article/the-sunday-telegraph/god-called-on-me-to-kill-637528417896589428/S>
- Shneidman, E. S. (1993). *Suicide as psychache: A clinical approach to self-destructive behavior*. Jason Aronson.
- Silver, J., Simons, A., & Craun, S. (2018). *A study of the pre-attack behaviors of active shooters in the United States between 2000 and 2013*. Behavioral Analysis Unit, Federal Bureau of Investigation, Department of Justice. <https://www.fbi.gov/file-repository/pre-attack-behaviors-of-active-shooters-in-us-2000-2013.pdf/view>
- Slemaker, A. (2023). Studying mass shooters' words: Warning behavior prior to attacks. *Journal of Threat Assessment and Management*, 10(1), 1–17. <https://doi.org/10.1037/tam0000198>
- Steinau, S., Brackmann, N., & Habermeyer, E. (2020). Depression und Gewalt: Ein Widerspruch? [Depression and violence: A contradiction?]. *Praxis*, 109(6), 453–458. <https://doi.org/10.1024/1661-8157/a003425>
- Strozier, C., Terman, D., & Jones, J. (Eds.). (2010). *The fundamentalist mindset*. Oxford University Press. <https://doi.org/10.1093/acprof:Oso/9780195379655.001.0001>
- Tassin, C., & Allely, C. (2022). Application of the Terrorist Radicalization Assessment Protocol (TRAP-18) to the case of the Army-Navy recruiting center attacker in Little Rock, Arkansas. *Behavioral Sciences of Terrorism and Political Aggression*. Advance online publication. <https://doi.org/10.1080/19434472.2022.2118349>
- Tong, F., & Pratte, M. S. (2012). Decoding patterns of human brain activity. *Annual Review of Psychology*, 63(1), 483–509. <https://doi.org/10.1146/annurev-psych-120710-100412>
- Toobin, J. (2023). *Homegrown: Timothy McVeigh and the rise of right-wing extremism*. Simon & Shuster.
- Vargen, L., & Challacombe, D. J. (2023). Violence risk assessment of Sovereign Citizens: An exploratory examination of the HCR-20 Version 3 and the TRAP-18. *Behavioral Sciences & the Law*, 41(2–3), 55–77. <https://doi.org/10.1002/bsl.2607>
- Vogel, S., Horwitz, S., & Farenthold, D. (September 18, 2013). Navy Yard gunman Aaron Alexis told VA doctors he was not thinking of harming others.

- The Washington Post*. Retrieved May 31, 2023, from https://www.washingtonpost.com/politics/2013/09/18/aee01b22-20a6-11e3-b73c-aab60bf735d0_story.html
- Wallenborn, J. K., & Meloy, J. R. (2023). Psychopathy and personality disorders. In T. Durns, C. Scott, B. McDermott, & P. Whitehead (Eds.), *A clinical guide to cults and persuasive leadership* (pp. 1–30). Cambridge University Press.
- Warren, L., Basocak, B., Robera, T., Chamberlain, S., Mullen, P., & McEwan, T. (2021). Explicit threats of violence. In J. R. Meloy & J. Hoffmann (Eds.), *International handbook of threat assessment* (2nd ed., pp. 22–44). Oxford University Press.
- Wertheimer, M. (1938). Gestalt theory. In W. D. Ellis (Ed.), *A source book of Gestalt psychology* (pp. 1–11). Kegan Paul, Trench, Trubner & Company. <https://doi.org/10.1037/11496-001>
- White, S., & Cawood, J. (1998). Threat management of stalking cases. In J. R. Meloy (Ed.), *The psychology of stalking: Clinical and forensic perspectives* (pp. 295–315). Academic Press. <https://doi.org/10.1016/B978-012490560-3/50034-7>
- White, S., & Meloy, J. R. (2016). *Workplace assessment of violence risk: A structured professional judgment guide* (3rd ed.). Specialized Training Services.
- White, S. G. (2017). Case study: The Isla Vista campus community mass murder. *Journal of Threat Assessment and Management*, 4(1), 20–47. <https://doi.org/10.1037/tam0000078>
- Zeller, B. (2006). Scaling heaven's gate: Individualism and salvation in a new religious movement. *Nova Religio*, 10(2), 75–102. <https://doi.org/10.1525/nr.2006.10.2.75>

Received June 6, 2023

Revision received August 22, 2023

Accepted October 13, 2023 ■