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Affiliation Instead of Loneness: Rethinking the "Lone Wolf" Typology

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Since the early 1990s, policy-makers, scholars, and practitioners have voiced increasing concern about the rise of lone actor terrorists.[1] In 2022, the Federal Bureau of Investigation (FBI) and Department of Homeland Security assessed that lone actors posed the most lethal domestic violent extremist threat and would continue to pose a significant challenge for law enforcement because of their ability to radicalize independently and attain weapons easily.[2] Research supports the intelligence community's assessment that lone actors are the deadliest terrorist threat in the United States.[3] The literature highlights that these actors are harder to catch than terrorists who are part of a group because lone individuals have a limited footprint.[4]

However, there is no universally accepted term or definition for this type of actor. The literature features a multitude of terms, including *lone wolf*, *lone offender*, *freelance terrorist*, *solo offender*, and *unaffiliated attacker*.[5] The definitions associated with these terms also vary. Studies of lone actor terrorists vary in who they examine, with some limiting themselves to individuals, and others including "isolated dyads."[6] Studies also vary in discussions of radicalization, with some focused on those who self-radicalized, and others including those who were radicalized by a terrorist organization or network but then committed an attack without direction or coordination.[7]

The term "lone wolf" emerged in the 1990s and was popularized by American white supremacists Tom Metzger and Alex Curtis.[8] Curtis initially used it to describe individuals who were inspired by his propaganda to perpetrate acts of violence independently.[9]

Furthermore, the "lone wolf" concept took shape when extremist propaganda was primarily distributed via printed magazines, newsletters, and pamphlets—before the widespread use of the internet or the existence of social media. Individuals can now radicalize and act "independently" while being influenced, inspired, and supported by extremist groups and networks online.[10] This trend toward online self-directed radicalization is particularly concerning among youth, considering that the number of young people radicalized without formal ties to terrorist or extremist organizations increased by more than 300 percent between 2013 and 2023.[11] With 5.56 billion people using the internet at the start of 2025 and 5.24 billion using some form of social media, the line between lone actor and group terrorism is becoming increasingly blurred.[12]

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Examining affiliation in DTOLD

To better reflect the current reality of radicalization and terrorist violence, Borum, Fein, and Vossekuil built on work by Pantucci[13] to propose a continuum of loneness based on three dimensions: loneness, direction, and motivation.[14] These dimensions capture the degree to which the offender independently initiated, planned, and prepared for the attack; received personal instruction or guidance from others; and was motivated by an ideologically based grievance.[15]

In 2025, CNA completed a new dataset—the Domestic Terrorism Offender-Level Database (DTOLD)—that we used to examine the characteristics of lone actor domestic terrorists in the United States. The database includes detailed information on the 319 non-Islamist perpetrators* who carried out terrorist attacks in the United States between January 1, 2001, and December 31, 2020. To construct this database, we leveraged the Global Terrorism Database (GTD). For each attack in the GTD that met our additional inclusion criteria,† we identified the perpetrator and collected both event-level data related to the attack and offender-level demographic and life history data.

Drawing on Borum, Fein, and Vossekuil's dimensional approach, we developed a composite affiliation score for each offender in DTOLD. We identified 18 variables in the dataset with implications for an offender's degree of connectedness to other extremists and assigned weighted values to each variable (Table 1). For example, we added 3 points to the offender's affiliation score if they were the leader of an extremist group, and we added 0 points if they were not in an extremist group at all.

* We determined that because it does not derive from domestic influences, Islamist terrorism does not fit sufficiently within the definitions of *domestic violent extremism* and *terrorism* to be included. Therefore, we excluded 53 individuals who we identified as being responsible for an attack in the GTD but who were motivated at least partially by Islamist extremism.

† The inclusion criteria for DTOLD are as follows: (1) the attack is included in the GTD; (2) the attack occurred in the United States; (3) the attack occurred between January 1, 2001, and December 31, 2020; (4) the perpetrator was 18 or older at the time of the attack; (5) if charges were filed, the case did not result in acquittal or mistrial nor were the charges dismissed; and (6) the attack meets the FBI's definitions of *domestic violent extremist* and *terrorism*.

Table 1. Elements of the composite affiliation score in DTOLD

Importance	Variable	Assigned Values			
		+0	+1	+2	+3
High	Co-offender	No co-offenders	N/A	1 co-offender	2+ co-offenders
	Recruited by extremist group	Not recruited by extremist group	N/A	N/A	Recruited by extremist group
	Role in extremist group	Not in extremist group	N/A	Member of extremist group	Leader of extremist group
	Received training or resources from extremist group	Did not receive training or resources from extremist group	N/A	N/A	Received training or resources from extremist group
Medium	Friends or family previously radicalized	No previously radicalized friends or family	N/A	Previously radicalized friends or family	N/A
	Gang affiliation	No gang affiliation	As a juvenile or as an adult	As both a juvenile and an adult	N/A
	Role in gang	Not a leader of a gang	Leader of a gang	N/A	N/A
	Militia membership or interaction	None	As a juvenile or as an adult	As both a juvenile and an adult	N/A
	Role in militia	Not a leader of a militia	Leader of a militia	N/A	N/A
	Known affiliation with prison gang	None	As a juvenile or as an adult	As both a juvenile and an adult	N/A
	Violent extremist group interaction	None	As a juvenile or as an adult	As both a juvenile and an adult	N/A
	Direct contact with a member of a violent extremist group	No	N/A	Yes	N/A
	Source of initial introduction to extremist ideology	Independent research, books, newsletters, manifestos, or other	A stranger (in person) or flyers	A relative, friend, roommate, coworker, partner, religious or spiritual leader, social media network, or prison cohabitant	N/A
	Source of continued engagement with extremist ideology				
Low	Verified or claimed relationship with another extremist individual	No	Yes	N/A	N/A
	Group linkage claims	None	Claimed to be linked to a group by the perpetrator or by the group	Claimed to be linked to a group by both the perpetrator and the group	N/A
	Notable interest in extremist individual	No	Yes	N/A	N/A
	Claimed inspiration from attack	No	Yes	N/A	N/A

Source: CNA.

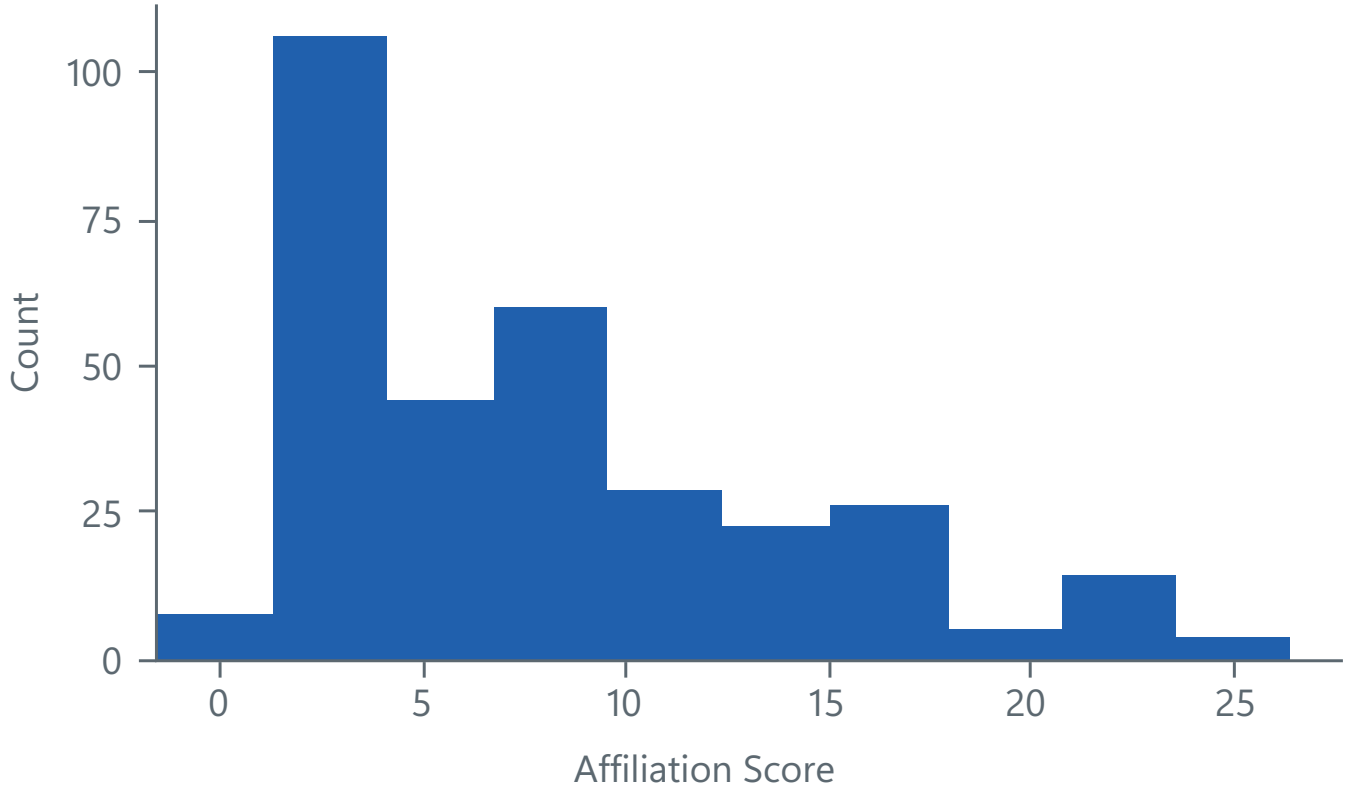
Note: The maximum possible point values were 3, 2, or 1 point for high-, medium-, and low-importance variables, respectively, except for group linkage claims by both the perpetrator and the group, which were valued at 2 points. "N/A" denotes instances when the variable was not eligible for the point value in that column.

Based on this empirical data, we found that affiliation scoring is a more nuanced way of categorizing terrorist actors than simply making a binary distinction between lone actors and group terrorists. If such a binary distinction were accurate, we might expect the affiliation scores we developed to produce a U-shaped graph, with most actors falling at either extreme. Instead, we see in Figure 1 that most individuals in our dataset fall somewhere in the middle.

Even so, we found that the data are not normally distributed in a standard bell curve. Most actors do fall somewhere in the middle, but we see a clear skew toward lower levels of affiliation. There are a few possible explanations for this pattern. For example, research suggests that less affiliated offenders are harder for law enforcement to detect.[16] As a result, less affiliated offenders may be overrepresented in the dataset because DTOLD includes only attempted and successful attacks (and not plans that were detected and thwarted by law enforcement). In addition, since the 1990s, extremist movement leaders have increasingly embraced leaderless resistance as a strategy to avoid the burgeoning US law enforcement and counterterrorism apparatus targeting them.[17] Most terrorist attacks since 9/11 have been perpetrated by offenders not formally associated with a terrorist group (98 percent of all deaths from terrorism between 2006 and 2016 in the US resulted from such attacks).[18] Because our dataset starts in 2001, the trend toward non-group-affiliated terrorists is reflected in the dataset.

Finally, note that the affiliation score does not reflect an individual's degree of social isolation but rather their connectedness to other extremists as they radicalized, prepared for, and executed their attack. Affiliation scores in DTOLD range from 0 to 25 and are the most useful analytically when compared to each other. For example, the 2014 Isla Vista shooter has an

Figure 1. Frequency of affiliation scores in DTOLD



Source: CNA

affiliation score of 4, which reflects his exposure to and continued engagement with an extremist ideology through independent online research and social media posts. In contrast, one of the 2020 California boogaloo movement shooters, who carried out his attack with a co-offender, has an affiliation score of 22. His score captures his association with a co-offender, militia membership, engagement with radicalized friends, radicalization through his friends and coworkers, direct contact with a violent extremist group, receipt of training or resources from this group, and claim that his attack was linked to the group. In previous studies in which dyads and lone actors were treated as equivalent, these two attackers might have been grouped together. However, the affiliation scores place them on opposite ends of a spectrum.

Limitations

This analysis does have limitations. The data in DTOLD were collected from publicly available sources—primarily court documents and media reporting. As a result, the information needed to calculate some actors' affiliation scores was not publicly available. To avoid underestimating affiliation scores for individuals with substantial missing data, we replaced missing values with the most typical response for each variable.[‡] Through this process, we also mitigated the media bias effect—that is, increased coverage of, and thus increased public information about, certain types of attacks and attackers.[19]

Equally important is that DTOLD was not designed with the explicit goal of exploring loneness (it was designed for broader analysis of domestic terrorists' life histories), so our composite affiliation variable is an imperfect construct that leverages the data already in the dataset.

Implications

Despite these limitations, this approach to affiliation has implications for both researchers and practitioners. For researchers, conceptualizing affiliation along a spectrum adds new complexity to data analysis and ensures that nuances in terrorist behavior can be captured. For practitioners, the affiliation continuum may prompt them to consider the degree to which paths to radicalization and mobilization can vary. In this way, they can target interventions at a range of points on the continuum of loneness. For example, individuals who are socially isolated but influenced by online extremist networks may benefit from different programming than those who are fully embedded in extremist groups. In addition, integrating consideration of the affiliation continuum into threat assessments can help behavioral threat assessment teams improve the accuracy and effectiveness of their evaluations and management strategies. Situating actors along a continuum rather than within rigid categories is critical for a more precise understanding of these actors and stronger prevention design.

[‡] More specifically, to avoid artificial deflation of affiliation scores for individuals with a high proportion of unavailable information, we used imputation based on the mode for each variable.

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