



Trends and Developments in Lone Wolf Terrorism in the Western World

An Analysis of Terrorist Attacks and Attempted Attacks by Islamic Extremists

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ABSTRACT

This paper reviews current literature on the recent and growing phenomenon of lone wolf terrorism. It aims to add data to this subject by analyzing trends and developments using a dataset created using RAND, START, and LexisNexis Academic databases. Analysis of the dataset clarifies five (5) finding trends:

1. increased number of countries targeted by lone wolf terrorists,
2. increased number of fatalities and injuries caused by lone wolves,
3. increased success rate of United States law enforcement to apprehend lone wolves before they can carry out their attacks,
4. high prevalence and success rate of loners over Pantucci's other three types of lone wolf terrorists, and
5. increased targeting of military personnel.

To complement these findings, five case studies from the dataset are examined in-depth. These were chosen for their significance in terms of high rates of fatality or injury. The case studies are shown to be consistent with previous research themes, including psychopathology, social ineptitude, the facilitating role of the Internet, and a combined motivation of personal grievances and broader radical Islamic goals in the process of Islamic self-radicalization.

* The views expressed in this publication are solely those of the author(s) and do not necessarily reflect the views of the International Institute for Counter-Terrorism (ICT).

INTRODUCTION & LITERATURE REVIEW

Lone wolf terrorism is a growing phenomenon, and research on the topic is severely lacking¹. This paper begins with a brief literature review, and then proceeds to examine trends and developments using the dataset from Appendix A. After examining the dataset, five case studies are analyzed for consistency with previous research, and to gain insights into the Islamic radicalization process.

Literature Review

Psychopathology and Social Ineptitude

Most previous research consistently shows that lone wolf terrorists, in contrast with group-based terrorists, are likely to display some form of psychopathology as well as social ineptitude.

Crenshaw, on terrorists in general, asserts that “the outstanding common characteristic of terrorists is their normality ... terrorism often seems to be the connecting link among widely varying personalities”². However, lone wolf terrorists show a divergent trend. Hewitt finds that the rate of psychological disturbance is considerably higher among lone wolves compared to group-based terrorists³. This finding is supported by Spaaij’s 2010 study, wherein he finds that three out of five lone wolf terrorists (in his case studies) were diagnosed with personality disorder. One lone wolf was diagnosed with obsessive-compulsive disorder, and one of the terrorists with personality disorder was additionally treated for anxiety disorder. Moreover, four of the five case studies described severe depression during at least one stage of the perpetrators’ lives. Although Spaaij’s study includes all lone wolf terrorists, not just Islamic motivated cases, the high prevalence of psychopathology suggests this finding is meaningful. Spaaij also found that all five perpetrators suffered from social ineptitude: they were all, to varying degrees, loners – with few friends – who generally preferred to act alone⁴.

Jasparro’s 2010 study also supported the findings of psychopathology and social ineptitude as: of the 14 American lone wolves studied, nine were described as ‘loners’ by friends and family⁵. Ten had experienced significant life crises, including marital problems, deaths of parents, unemployment or job issues, financial troubles, and drug abuse; and seven had criminal records. Further, at least six suffered from mental illnesses, ranging from bipolar disorder and schizophrenia, to depression.

¹ Hamm Mark, “Ramon Spaaij. Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention,” review of *Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention*, by Ramon Spaaij. *Perspectives On Terrorism* 6, no. 4 (2012).

<http://www.terrorismanalysts.com/pt/index.php/pot/article/view/hamm-understanding-lone-wolf-terrorism>.

² Spaaij Ramon, “The Enigma of Lone Wolf Terrorism: An Assessment,” *Studies in Conflict & Terrorism* 33, no. 9 (2010): 854-870.

³ *ibid*

⁴ *ibid*

⁵ Jasparro Chris, “Lone Wolf – The Threat from Independent Jihadists,” *Wikileaks.org*, 2010.

A later study by Spaaij again showed the presence of psychopathology and social ineptitude in lone wolves⁶. Relating to psychopathology, he found that whereas affiliated or group terrorists tend not to suffer from psychopathology – lone wolf terrorists are indeed likely to suffer from some form of psychological disturbance and in terms of social ineptitude, he again found that lone wolves are loners.

One study disagrees with these findings, despite the overwhelming consistency in previous research: Bakker and de Graaf's 2011 study found that lone wolves' backgrounds are all different, and that some are psychologically disturbed while others are mentally healthy⁷. Taking this into account, it is noteworthy- that while lone wolves are more likely to suffer psychopathology and social ineptitude compared to group-based terrorists, not all cases can be reduced to mental illness and loneliness. Healthy and adjusted individuals are also susceptible to Islamic self- radicalization and lone wolf terrorism.

Prevalence and Lethality

Lone wolf attacks currently represent a small percentage of all terrorist attacks; however, research shows that lone wolves are still a significant threat, and lone wolf terror attacks seem to be on the rise in the Western world.

A study by Stern in 2002 illustrated that lone wolves represented an increasing threat, because powerful weapons were becoming more available⁸.

Spaaij's 2010 study showed that the United States had more lone wolf terrorism than the other 14 countries studied⁹. The 15 countries that Spaaij examined, using the RAND-MIPT Terrorism Knowledge Base, included the United Kingdom, Germany, France, Spain, Italy, Poland, Netherlands, Denmark, Sweden, Czech Republic, Portugal, Russia, Canada, United States, and Australia. The United States was the only country with an increase in lone wolf terrorism over the past three decades. However, Spaaij's study included non-Islamic motivated terrorists, such as right-wing militia and anti-abortionists, among whom "leaderless resistance" remains a popular tactic in the United States. Regarding overall prevalence, Spaaij found that lone wolf terrorism accounted for 1.28% of all terrorist incidents from 1968 to May 2007 in the 15 countries listed above. Statistically speaking, therefore, lone wolf terrorism is a relatively marginal phenomenon¹⁰. However, Spaaij used a definition that excluded duos and trios. In terms of lethality, Spaaij found no increase in fatalities caused by lone wolf terrorists, although there is evidence that the lethality of terrorism in general is increasing.

⁶ Spaaij Ramon, *Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention* (Heidelberg, London, New York: Springer, 2012).

⁷ Edwin Bakker and Beatrice de Graaf, "Preventing Lone Wolf Terrorism: Some CT Approaches Addressed," *Perspectives on Terrorism* 5, no. 5-6 (2011): 43-50.

⁸ Stern Jessica, "The Protean Enemy," *Foreign Affairs* 82, no. 4 (2003): 27-40.

⁹ Spaaij Ramon, "The Enigma of Lone Wolf Terrorism: An Assessment," *Studies in Conflict & Terrorism* 33, no. 9 (2010): 854-870.

¹⁰ *ibid*

Like Spaaij, Bakker and de Graaf's 2011 study also asserts that lone wolves are statistically negligible, as they make up only 1.28% of terrorist incidents in the United States, Germany, France, Spain, Italy, Canada, and Australia. Notwithstanding, Bakker and de Graaf find that they seem to be on the rise, although the increase in the United States is partly due to right-wing extremists. Bakker and de Graaf comment that lone wolves are dangerous despite these low numbers, because they are difficult to prevent. They explain also that it is particularly difficult to differentiate between lone operator extremists who intend to commit attacks, and those who simply express radical beliefs, or issue hollow threats¹¹.

Jasparro's 2010 study asserts that lone wolf terrorism is not a big threat, as lone wolf attacks carry a poor record of success, and result in fewer fatalities. He believes that the most serious threats remain those posed by group-based terrorists¹².

Hewitt's 2003 study identified 30 cases of lone wolf terrorism in the United States between 1955 and 1999. Hewitt showed that although these cases represented 2% of all terrorist arrests, they caused 15% of terrorist fatalities. Hewitt also found significant differences across time periods, in the United States' rate of lone wolf terrorism. The lethality increased in the United States from 1978 to 1999. Between 1955 and 1977, 7% of all victims of terror were killed by unaffiliated individuals; and from 1978 to 1999, that percentage rose to 26%¹³.

Spaaij's 2012 study, in contrast to his 2010 findings, found that lone wolf terrorism is on the rise throughout the Western world. Between the 1970s and 2000s, the total number of lone wolf attacks in the United States rose by 45%, from 22 to 32 attacks. In the other Western countries, it rose by 412%: from 8 to 41 attacks¹⁴. Spaaij's study ends somewhat optimistically; that the lethality of lone wolf terrorism is not inevitable, as lone wolves tend to broadcast their intent to commit violence, making them traceable and preventable¹⁵.

Facilitating Factors

Many studies discuss the facilitating role of the Internet in the spread of lone wolf terrorism. One study also points to Al-Qaeda's encouragement of individual jihad as a facilitating factor¹⁶.

Stern's 2003 study points to the Internet as an enabling factor, explaining that the Internet facilitated the spread of virtual subcultures, and increased the capacity for more loosely-based terrorist networks. The Internet additionally has information for lone wolves, such as articles

¹¹ Edwin Bakker and Beatrice de Graaf, "Preventing Lone Wolf Terrorism: Some CT Approaches Addressed," *Perspectives on Terrorism* 5, no. 5-6 (2011): 43-50.

¹² Jasparro Chris, "Lone Wolf – The Threat from Independent Jihadists," *Wikileaks.org*, 2010.

¹³ Hewitt Christopher, *Understanding Terrorism in America: From the Klan to Al-Qaeda* (New York: Routledge, 2003).

¹⁴ Spaaij Ramon, *Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention* (Heidelberg, London, New York: Springer, 2012).

¹⁵ *ibid*

¹⁶ Pantucci Raffaello, *A Typology of Lone Wolves: Preliminary Analysis of Lone Islamist Terrorists* (London: the International Centre for the Study of Radicalisation and Political Violence, 2011).

explaining how to build explosive devices. Further, Stern asserts that recruiting via the internet attracts better educated young people, compared to older, more traditional recruitment methods such as radio programs¹⁷.

Bates' 2012 study also discusses the role of the Internet. He discusses how, historically, books, writings, and manifestos (aka: secondary sources) were frequent sources of self-radicalization. With the advance and now pervasiveness of the Internet, lone wolf terrorists can be self-radicalized from a distance¹⁸.

Pantucci in 2011 discusses two facilitating factors contributing to the spread of lone wolf terrorism: first: the Internet, and second: Al Qaeda's encouragement of lone wolf terrorism. Regarding Internet, Pantucci discusses how it enables individuals with personal grievances to congregate in online chat rooms and become exposed to the justifying and externalizing narrative offered by radical Islam. Regarding Al Qaeda's encouragement, Pantucci specifically points to *Inspire*, the English-language online magazine – published by Al Qaeda – that encouraged American Muslims in 2010 to “fight jihad on US soil”. Pantucci finds that lone wolf terror attacks – inspired by radical Islam – is on the rise, and he connects this to Al-Qaeda's deliberate encouragement of the phenomenon¹⁹.

Motivation and Radicalization

Much previous research discusses the interplay between lone wolves' personal grievances and broader political goals. The Al-Qaeda narratives and those of other extremist terrorist organizations, provide the target- of-blame for these angry individuals. In other words, the terrorists' organizational narratives assist in the externalizing of these individuals' personal grievances as part of the Islamic radicalization process.

Stern's 2003 study provides examples to illustrate the idea that lone wolf terrorists act out of a mixture of ideology and personal grievances. His first example is that of Mir Aimal Kansi, a lone wolf who described his actions as “between jihad and tribal revenge”, jihad against America for its support of Israel, and revenge against the CIA who had mistreated his father in Afghanistan's war with the Soviets. His other example was that of John Allen Muhammad, one of the Washington snipers. Muhammad endorsed the 9/11 attacks, but was additionally motivated by his anger toward his ex-wife²⁰.

Spaaij's 2010 study cites Stern's claim that lone wolves often come up with their own ideologies that combine personal vendettas with religious or political grievances. Spaaij's results verify this argument: all five of his case studies demonstrate a combination of political and personal motives. Spaaij discusses how lone wolf terrorists create their own ideologies that combine

¹⁷ Stern Jessica, “The Protean Enemy,” *Foreign Affairs* 82, no. 4 (2003): 27-40.

¹⁸ Bates Rodger, “Dancing with Wolves: Today's Lone Wolf Terrorists,” *The Journal of Public and Professional Sociology* 4, no. 1 (2012): 1-14.

¹⁹ Pantucci Raffaello, *A Typology of Lone Wolves: Preliminary Analysis of Lone Islamist Terrorists* (London: the International Centre for the Study of Radicalisation and Political Violence, 2011).

²⁰ Stern Jessica, “The Protean Enemy,” *Foreign Affairs* 82, no. 4 (2003): 27-40.

personal frustrations and aversions with broader political, social, or religious aims. In the process, many lone wolf terrorists draw on the communities-of-belief and ideologies-of-validation, generated and transmitted by extremist movements. Spaaij further explains how a social identification with a broader political, social, or religious struggle can encourage the lone wolf terrorist's dualistic categorization of the world into "us" and "them". This categorization that stereotypes social groups and dehumanizes the enemy effectively weakens psychological barriers against violence²¹.

Bakker and de Graaf's 2011 study shows that almost all lone wolves display a degree of commitment to, and identification with, extremist movements. They also point out that lone wolves inspire copycat behavior and become motivational role models for other alienated youth. Bakker and de Graaf discuss the importance of researching the radicalization process, and focusing on how lone wolves become radicalized and motivated to carry out attacks²².

Jasparro's 2010 study examined 14 cases, and found that in all cases, religion was not the initial driver of the terrorist's anger and radicalization. Instead, religion helped shape and direct their thinking and individual struggles. Although all 13 perpetrators cited political motivations in line with Al Qaeda or similar extreme Sunni jihadist ideologies- only Major Nidal Malik Hasan had a life history of devout Sunni practice; and even his radicalization only begun later, after his parents' death and his own entry into the American Military. Jasparro shows that these terrorists became increasingly angry and radical as their personal psychological problems deepened, whereupon they began to externalize their grievances and blame them on outside causes. Their grievances were then shaped and sharpened by extremist ideologies, although the actual point in time when they were religiously radicalized varied widely²³. In some cases, radicalization developed over an extended period, while in others it was rapid²⁴.

Bates' 2012 study finds that terrorism is increasingly the result of self- radicalized lone wolves who commit to create a public performance in support of a cause²⁵.

Pantucci in 2011, similar to Spaaij, finds that lone wolf terrorists are motivated by a combination of political and personal motives. He explains how they create their own ideologies that combine personal frustrations with broader political, social, or religious grievances²⁶. This is consistent with the general research finding that there is not one single path to radicalization²⁷. Pantucci

²¹ Spaaij Ramon, "The Enigma of Lone Wolf Terrorism: An Assessment," *Studies in Conflict & Terrorism* 33, no. 9 (2010): 854-870.

²² Edwin Bakker and Beatrice de Graaf, "Preventing Lone Wolf Terrorism: Some CT Approaches Addressed," *Perspectives on Terrorism* 5, no. 5-6 (2011): 43-50.

²³ Jasparro Chris, "Lone Wolf – The Threat from Independent Jihadists," *Wikileaks.org*, 2010.

²⁴ *ibid*

²⁵ Bates Rodger, "Dancing with Wolves: Today's Lone Wolf Terrorists," *The Journal of Public and Professional Sociology* 4, no. 1 (2012): 1-14.

²⁶ Pantucci Raffaello, *A Typology of Lone Wolves: Preliminary Analysis of Lone Islamist Terrorists* (London: the International Centre for the Study of Radicalisation and Political Violence, 2011).

²⁷ Hamm Mark, "Ramon Spaaij. Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention," review of *Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention*, by Ramon Spaaij.

comments on Spaaij's findings: that although unaffiliated, lone wolves may identify or sympathize with extremist groups, even having been affiliated with them in the past. Further, extremist organizations provide "ideologies of validation" for lone wolves, and help them to transfer their personal frustrations onto the transgressive "other". Thus, terrorist organizations play a role in the externalization stage of the radicalization of Islamic lone wolf terrorists²⁸.

Typologies

Different typologies have been proposed to characterize lone wolf terrorism. The variety suggests that there is no single profile for the lone wolf terrorist: they have varying levels of contact – if any – with other terrorists. They display variety in motivation, form, and the extent to which they take risks.

One typology proposed by Bates' 2012 study is a general model of lone wolf terrorism using four dimensions:

1. **Extent of radicalization:** to what degree is the radicalization personal (individual exposure through literature or the internet) versus organizational (some lone wolves have had organizational exposure and even past training)
2. **Motivation:** continuum from egoistic to altruistic
3. **Form:** chaos (single event) or career (serial)
4. **Risk-awareness:** continuum from risk-averse to risk-seeking (i.e.: risk-seeking individuals commit riskier acts)²⁹

Another typology is proposed by Pantucci, who characterizes four types of lone terrorists:

1. **Loners:** while they may utilize the ideological cover of an Islamist ideology to provide an explanation for their actions, they do not appear to have any actual connection or contact with extremists – beyond what they are able to access through passive consumption on the Internet or from society at large.
2. **Lone wolves:** they carry out their actions alone and without any physical outside instigation, but they do in fact demonstrate some level of contact with operational extremists. They are troubled individuals who seek solace in the extremist ideology – an ideology that while for the most part remains self-taught, also appears to be reinforced through online contacts with extremists.

Perspectives On Terrorism 6, no. 4 (2012).

<http://www.terrorismanalysts.com/pt/index.php/pot/article/view/hamm-understanding-lone-wolf-terrorism>.

²⁸ Pantucci Raffaello, *A Typology of Lone Wolves: Preliminary Analysis of Lone Islamist Terrorists* (London: the International Centre for the Study of Radicalisation and Political Violence, 2011).

²⁹ Bates Rodger, "Dancing with Wolves: Today's Lone Wolf Terrorists," *The Journal of Public and Professional Sociology* 4, no. 1 (2012): 1-14.

3. **Lone wolf packs:** a group of individuals who self-radicalize using the Al Qaeda narrative.
4. **Lone attackers:** these are individuals who operate alone, but demonstrate clear command and control links with actual Al Qaeda core or affiliated groups. These attackers are not truly lone wolf terrorists, and this fourth type was included by Pantucci for comparison purposes³⁰.

THE DATASET

Method

The dataset (Appendix A) was created for the purposes of this study. It was compiled by searching the RAND, START, and LexisNexis databases for terrorist incidents from 1990 onwards. In all three databases, only lone wolf incidents from North America and Western Europe were included.

The RAND database used the label ‘Other’ to designate that the listed incident was perpetrated by an individual, rather than a group. The START database used the label ‘Individual’ to designate that the perpetrator was not a terrorist organization. Using these as starting points, the appropriate listings were then manually checked to ensure the description fit the definition of lone terrorist, taken from Pantucci’s theory. In other words, duos and trios were included, and individuals who had some contact with terrorists – but were officially unaffiliated with the terrorist organization – were included as well.

The LexisNexis Academic database was used to search news sources, and the utilized search terms included ‘lone terrorist’, ‘Islam terrorist lone’, ‘unaffiliated terrorist’, and ‘lone wolf terrorist’. News sources that were searched through this database included: The Associated Press, The Associated Press International, Associated Press News Briefs, Associated Press Online, The Associated Press State & Local Wire, CBC News, CNN, CNN International, CNN Wire, CNN.com, CTV Television, Daily Mail and Mail on Sunday, The Daily Telegraph (London), Fox News Network, The Guardian (London), The Guardian Weekly, Guardian.co.uk, Los Angeles Times, McClatchy-Tribune News Service, NBC News, The New York Times, Telegraph.co.uk, UPI (United Press International), Wall Street Journal Abstracts, and The Washington Post.

Variables

The Dataset categorized each case according to: *Year*; *Country*; name of the *Perpetuator*; Number of *Killed*; Number of *Injured*; whether the incident was *Attempted or Carried Out*; *Attack Type* (meaning was the attack Terrorism or Guerilla); *Actor Type*, according to Pantucci’s

³⁰ Pantucci Raffaello, *A Typology of Lone Wolves: Preliminary Analysis of Lone Islamist Terrorists* (London: the International Centre for the Study of Radicalisation and Political Violence, 2011).

typology of Loner, Lone Wolf, and Lone Wolf Pack; *Ideology*; *Database* in which the incident was listed; *Source(s)*, meaning the specific news source; and *Description*.

An attack was considered 'attempted' if law enforcement apprehended the would-be-terrorist before he engaged in an actual terror attack – including cases where the would-be terrorist pushed a button on a fake bomb that had been made inert by law enforcement (“sting”). An attack was considered 'carried out' if the terrorist was only caught after engaging in his (planned) attack.

Attacks were classified as either 'terrorism' or 'guerilla' using Boaz Ganor's definition of terrorism: "a form of violent struggle in which violence is deliberately used against civilians in order to achieve political goals". In contrast, "a form of violent struggle in which violence is deliberately used against military personnel in order to achieve political goals", is considered guerilla warfare.

Actor type was categorized using Pantucci's typology from his 2011 work, “A Typology of Lone Wolves: Preliminary Analysis of Lone Islamist Terrorists”. Pantucci defines four types of lone wolves: loners (no contact with extremists), lone wolves (contact with extremists), lone wolf packs (a group of individuals who self-radicalize; packs cannot exceed three members), and lone attackers (individuals who are under Al-Qaeda command). Pantucci uses the fourth category of 'lone attacker' for comparative purposes, and so the dataset excludes that category.

In terms of Ideology, the dataset differentiated terrorists motivated by the general Al-Qaeda ideology or a thirst for 'jihad', from others who were more specifically motivated by the teachings of Al-Awlaki or support for a specific terrorist organization.

Summary of the Data

Between years 1990 and 2013, there have been 73 attacks: 27 lone wolf terrorist attacks and 46 attempted attacks by Islamic extremists. Four attacks occurred from 1990-1999, 40 attacks occurred from 2000-2009, and 29 attacks have already occurred in the 2010's (the last 3 years).

The United States was the most-targeted country, with 63% of all the attacks (46 attacks). The second most-targeted was the United Kingdom, with 10 attacks. Third was Germany, with five attacks. Other countries included the Netherlands (two attacks), Italy (two attacks), France (two attacks), Denmark (two attacks), Sweden (one attack), Norway (one attack), Canada (one attack), and Spain (one attack).

86% (63 of the 73) of cases were targeted against civilians, and are thus classified as “terrorism”. The remaining 10 were targeted against military personnel, making them “guerilla”, according to Boaz Ganor's definition of terrorism.

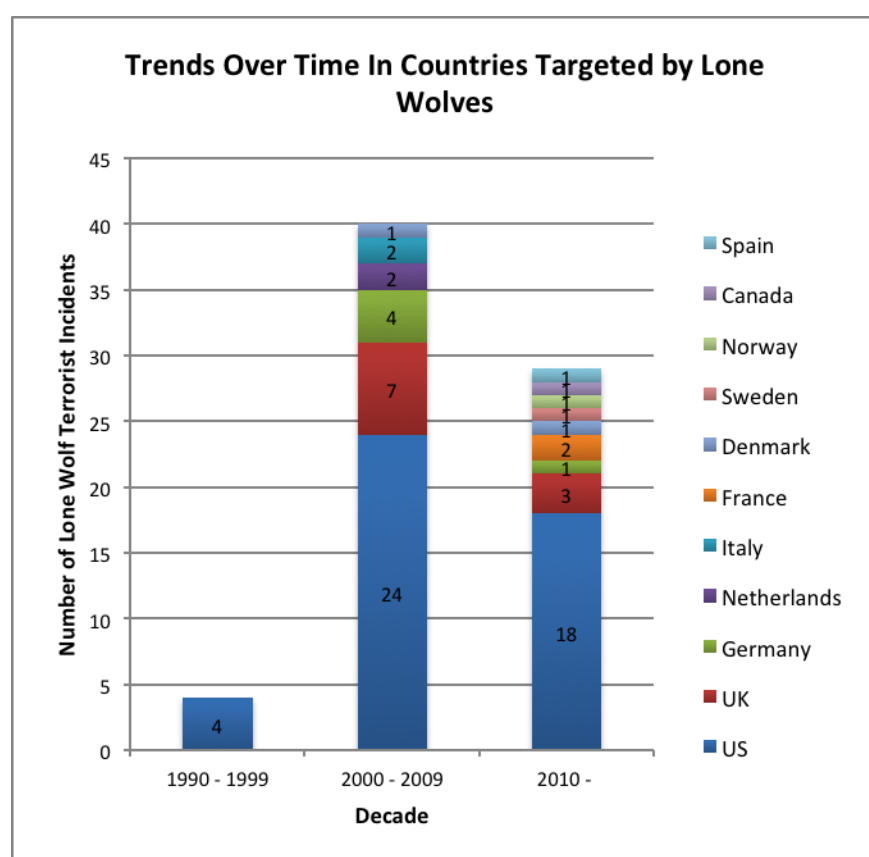
40 out of 73 perpetrators or 55% are classified as loners according to Pantucci's classification – meaning they had no contact with other extremists. 18 perpetrators are classified as lone wolves,

meaning they had some contact with other extremists. The remaining 15 cases involved lone wolf packs, which includes duos and trios who self- radicalized.

Nine perpetrators were specifically motivated by the radical teachings of Al-Awlaki; two were specifically motivated by the teachings of Abu Hamza; one specifically supported Hezbollah; and the remaining 61 were generally motivated by the Al-Qaeda ideology, Radical Islam or Jihad, or the Palestinian or Islamic cause.

The case with the highest number of fatalities was the Fort Hood shooting by Major Nidal Malik Hasan in 2009 and the case with the highest number of wounded was the Boston Marathon bombing by the Tsarnaev brothers in 2013.

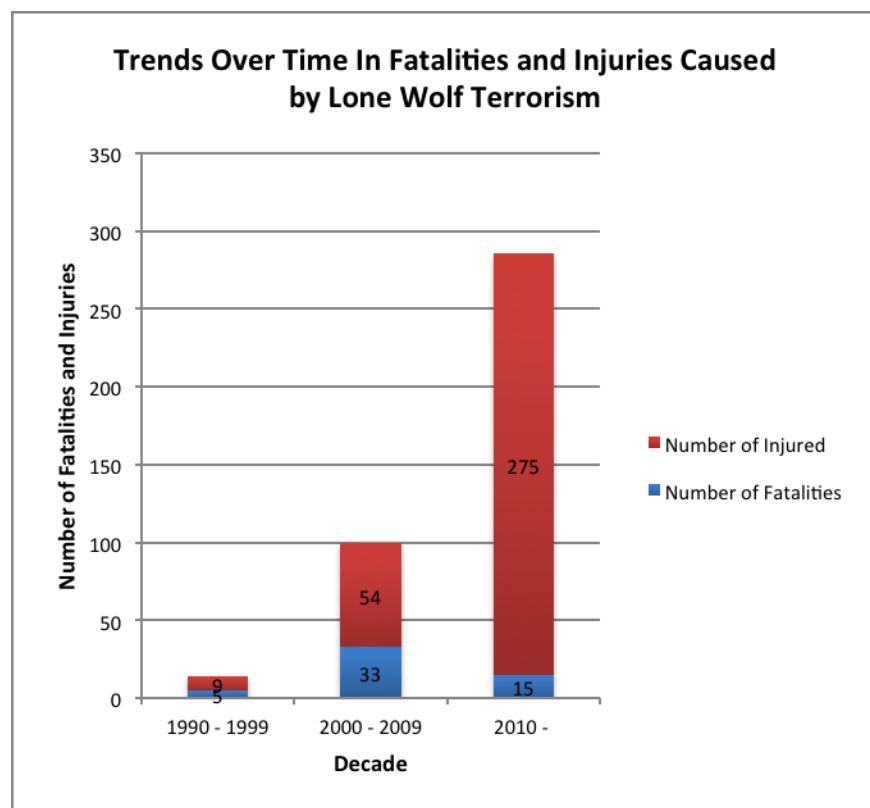
Trends and Developments



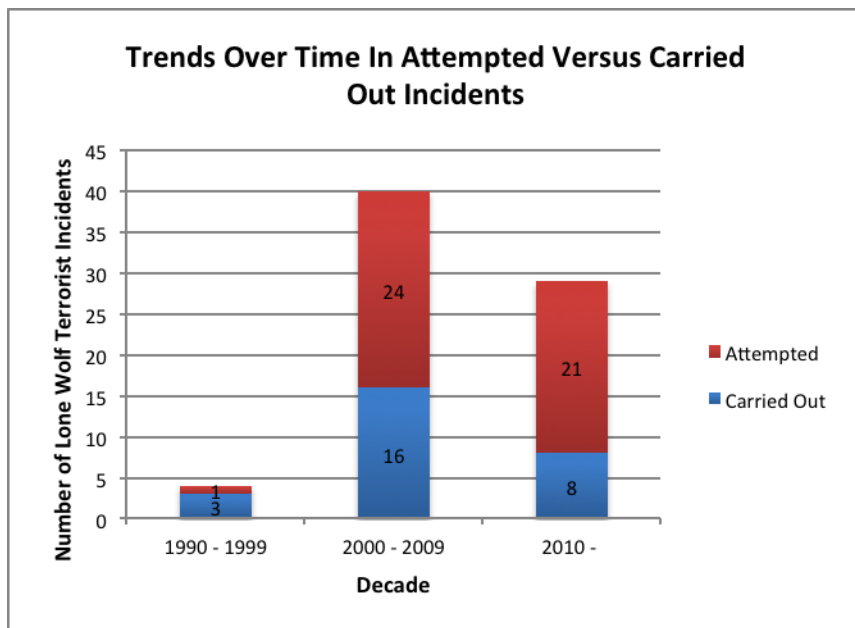
This representation displays the trends in countries targeted by Islamic lone wolf terrorist attacks. The United States remained the most- targeted country throughout the three decades: in the 1990's there were four attacks in the United States, and this number increased to 24 in the 2000's. Moreover, the current decade has already seen 18 attacks in the United States, and the decade is only in its third year. While the United States' number of incidents has increased – along with the overall number of terrorist attacks in the West – the UK and Germany have both

seen decreased numbers of terrorist attacks from the 2000's to the 2010's. However, as the 2010-decade is not complete, this remains an unimportant finding.

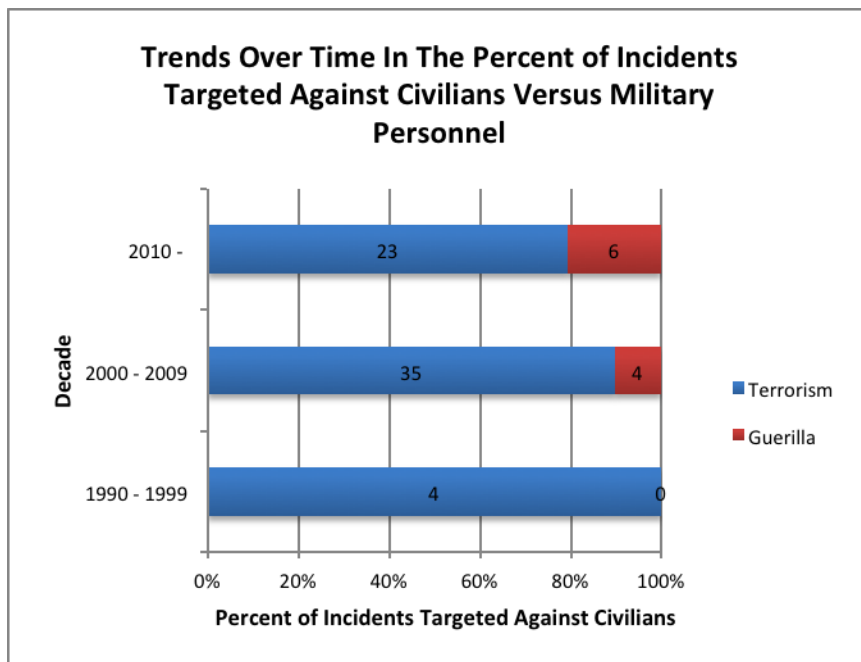
From the 1990's to the 2000's, more countries were becoming targets of Islamic-motivated lone wolves. In the 1990's, only the United States was targeted, whereas from 2000 to 2009, six Western countries were targeted. Further, in the current decade there has already been a further increase in the number of countries targeted, which includes Canada, Spain, Norway, and France – countries not targeted in previous decades by Islamic lone wolf terrorists.



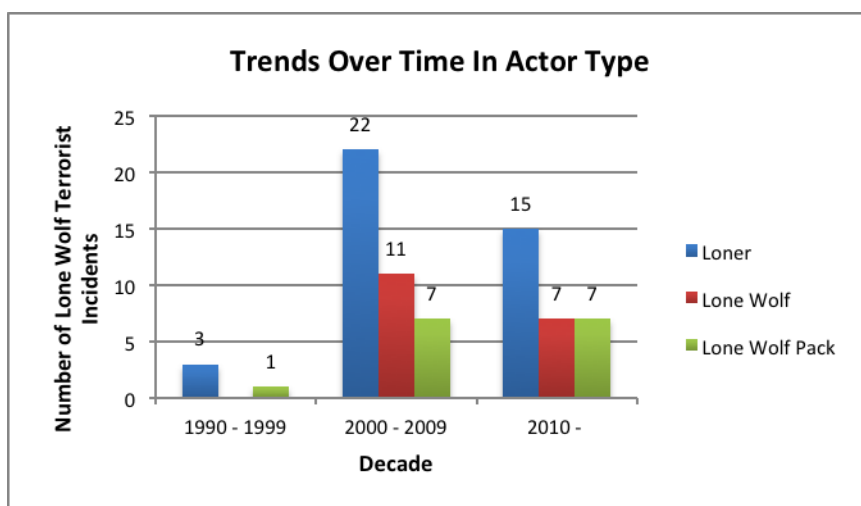
This graph clearly shows an increase in the harm caused by lone wolf terrorist incidents. The number of fatalities increased from the 1990's to the 2000's, from 5 deaths to 33 deaths caused by Islamic lone wolves. The number of injuries caused from Islamic lone wolves also increased from the 1990's to the 2000's, increasing from 9 injuries to 54. While a further increase is seen from the 2000's to the 2010's in the number of injured, this must be analyzed more closely. The subsequent graph shows the increase in *attempted* versus *carried-out* terrorist incidents; the United States in particular is improving in its ability to stop lone wolf terrorists before they cause real damage. The increase in this graph in terms of number of injuries includes the effect of one *carried-out* incident that caused 264 injuries: the Boston bombing.



This graph shows the change over time in the effectiveness of law enforcement and counter terrorism experts: it shows that over the three decades, a higher percent of terrorist incidents are being caught before they cause damage. In the 1990's, 25% of lone wolf terrorist incidents was caught, and 75% succeeded. In the 2000's, 60% (24 out of 40 incidents) were caught – and a 40% success rate for the lone wolf terrorist, whereas their success rate was 75% in the previous decade. In the current decade so far, law enforcement has succeeded in catching 21 out of 29 incidents: driving the terrorist success rate down to 28%. This shows significant improvement on the part of counter-terrorism experts. Although the number of lone wolf terrorist incidents is on the rise, the Western world is improving in their capabilities to stop Lone Wolves. However, Lone Wolves have become more deadly, e.g. The Boston bombing figures in the previous graph. Preventing attacks are an increasingly mission-critical strategy.

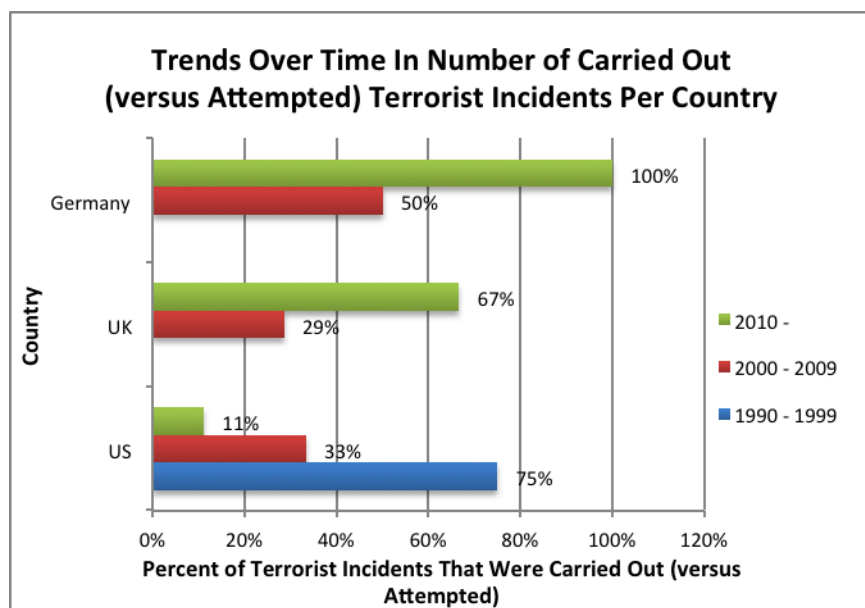


This graph represents the increase in the usage of guerilla warfare by Islamic lone wolves. From 1990-1999, 100% of incidents were targeted against civilians – in other words, they could be classified as *terrorism*. From 2000-2009, 10% of incidents were targeted against military personnel rather than civilians. From 2010-2013, that percent doubled, and 20% of incidents have been targeted against military personnel. This shift may represent an increased emphasis on the wars in Iraq and Afghanistan, with many perpetrators succumbing to violence due to the atrocities they perceive to be happening overseas in the context of American occupations of Muslim lands.

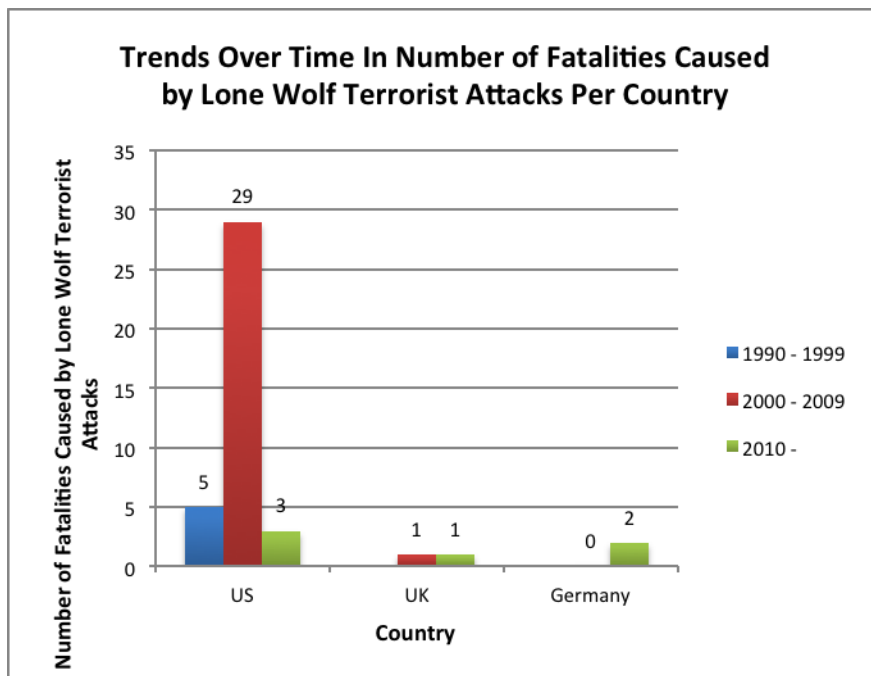


This representation shows the distribution of *actor types* over the three decades. Interestingly, most lone wolf terrorist incidents – in all three decades – are perpetuated by Pantucci's loners:

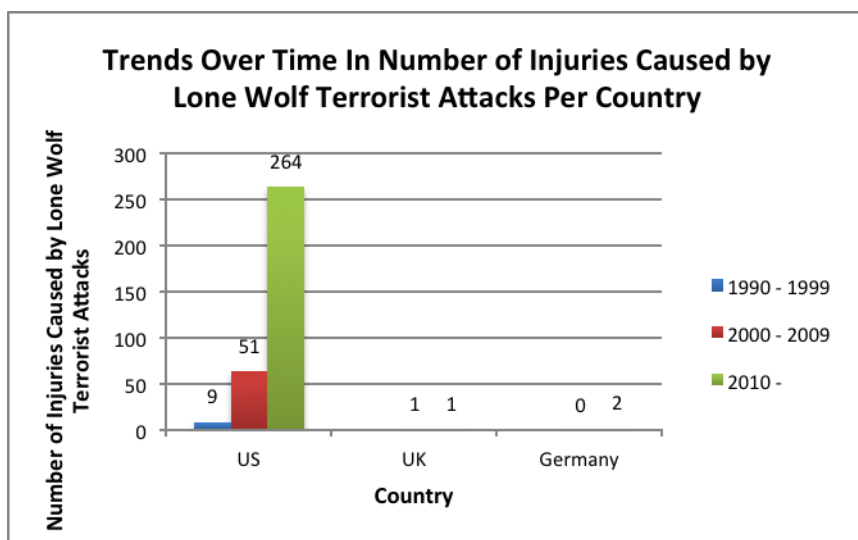
terrorists with no connection to other extremists. The number of incidents carried out by lone wolves and lone wolf packs are roughly the same, and the proportions do not change much across the decades.



This graph shows the changing effectiveness of law enforcement, separated by country. Only the three countries with the largest numbers of incidents were included: the United States, the United Kingdom, and Germany. In the United States, 75% of terrorist attacks were carried out in the 1990's, whereas only 33% of them were carried out in the 2000's. In the 2010's so far, that rate has decreased further, with only 11% of terrorist incidents "making it past" law enforcement; a demonstrated improvement in the United States' ability to manage and counter lone wolf terrorism. Unfortunately, other countries have not had the same successes. The UK had 29% of terrorist incidents being carried out "successfully" in the 2000's, and this increased to a 67% success rate on the part of the lone wolf terrorist. Likewise in Germany, the terrorist success rate went up from 50% to 100% in the 2010's. However, since the number of incidents in the UK and Germany are far less than the United States, the rate of success is not meaningful. For instance, Germany only saw one incident of lone wolf terrorist in the 2010's to date: that solitary incident (100% of incidents) was *carried out*, clearly not applicable to any relevant statistical observation.

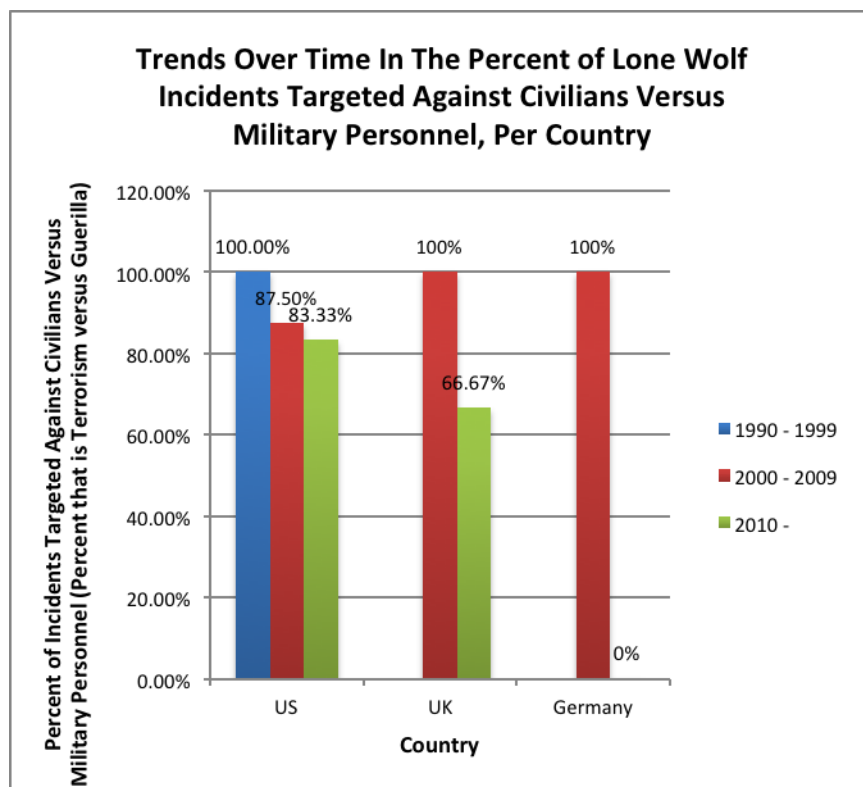


In the United States, the number of fatalities caused by lone wolf terrorists increased drastically – from 5 deaths to 29 deaths – from the 1990’s to the 2000’s. Fortunately, that fatality rate decreased to 3 deaths so far in the 2010’s; this may be due to the enhanced American law enforcement effectiveness, although it is a premature attribution given that the decade is not complete. In the UK and Germany – the two countries with the second highest incidents of lone wolf terrorism – the fatality rate remains relatively unchanged. The U.K. experienced 1 death in each decade, while Germany increased from zero deaths in the 2000’s, to two deaths thus far in the 2010’s.

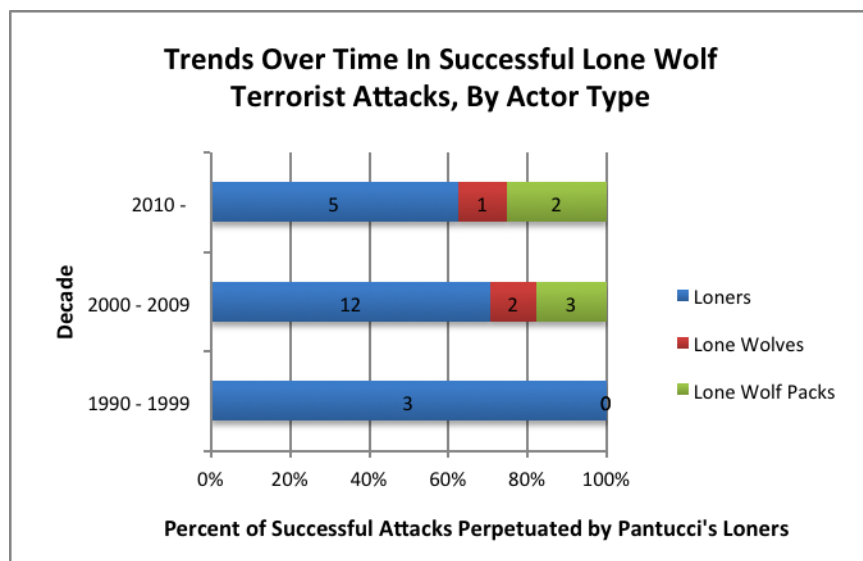


The number of injuries caused by lone wolf attacks dramatically increased in the United States

from 1990's to 2000's, and again from the 2000's to the 2010's: from 9 injuries in the 1990's, to 51 injuries in the 2000's. Then in the 2010's, that number increased to 264, with all of the injuries attributed to the Boston Bombing. This distils and clarifies the increased capacity for lone wolf terrorist incidents to cause immense harm, possibly as bomb making materials become affordable and accessible. In the United Kingdom and Germany, the numbers stayed relatively constant. In the UK, the number of injuries was one per decade. In Germany, injuries went up from zero to two.



This graph shows that the overwhelming majority of incidents target civilians over military personnel. However, incidents targeting military personnel increased over the decades, in each country. In the United States, 100% of incidents targeted civilians in the 1990's, and 88% targeted civilians in the 2000's. In the 2010's so far, 83% of incidents have been targeted against civilians in the United States. In the UK, attacks against civilians decreased from 100% to 67%. In Germany, 100% of attacks in the 2000's were against civilians, while so far in the 2010's, the one attack in Germany was against military personnel.



This graph shows the success rate of lone wolves, broken down by *actor type* and by *decade*. In each decade, loners were by far the most successful perpetrators of terrorist attacks. From 1990-1999, 100% of the successful incidents – incidents that were carried out rather than attempted – were perpetrated by loners. From 2000-2009, 70% of the successful incidents were carried out by loners. The second most successful actor type was the lone wolf pack: they were responsible for almost 20% of the successful attacks. In the 2010's so far, over 60% of the successful attacks were carried out by loners, with the lone wolf pack jumping up to claim approximately 25% of the successful incidents.

THE CASES

The cases chosen for this study are the five most significant incidents taken from the dataset in Appendix A. The case studies below were chosen as significant due to their high fatalities or their high number of injured. The three cases with the highest number of fatalities were: Major Nidal Malik Hasan (13 deaths), John Allen Muhammad and Lee Malvo (10 deaths), and Mohammed Merah (8 deaths, including his own). The three cases with the highest number of injuries were: Dzhokhar and Tamerlan Tsarnaev (264 injured), Major Nidal Malik Hasan (30 injured), and Mohammed Reza Taheri-azar (9 injured).

1) John Allen Muhammad and Lee Malvo

During three weeks in October 2002, Muhammad and Malvo engaged in sniper attacks that killed 10 people and wounded three others in Maryland, Virginia and Washington, DC. During their three-week terror campaign, they taunted police with written messages and phoned-in threats and demands, and gunned down local residents doing mundane tasks, like shopping or pumping gas. Muhammad and Malvo were also suspected of fatal shootings in Alabama, Arizona, and Louisiana. During two trials and in years of appeals, Muhammad professed his innocence. One of his trials included testimony from Malvo, who pleaded guilty and alleged that

Muhammad – the mastermind of the attacks – influenced him. Malvo, who was 17 at the time of the attacks, was too young to be considered for the death penalty, although he received life in prison without parole. Muhammad was sentenced to death in Virginia by lethal injection.

John Allen Muhammad, born John Allen Williams, was a 48-year old Muslim convert, and a US army veteran. This soldier-turned-auto- mechanic had under his belt two failed marriages and two failed businesses. His frustrations at his second ex-wife and society turned to violence when he lost custody of the three kids from his second marriage. According to Malvo’s testimony, Muhammad’s ultimate plan was to steal back his three kids and move to Canada. Malvo testified that they additionally wanted to extort money from the government and use it to train homeless people in Canada to follow in their footsteps and terrorize American cities. In this sense, Muhammad was motivated by a combination of personal grievances and the radical Islam that condoned his acts of terror. Mildred Muhammad, his second ex-wife and the mother of three of his four children, asserted that she was her ex-husband’s target, and she blamed the first Gulf War for changing his personality.

Jamaican-born Lee Boyd Malvo, whose parents separated when he was three, was influenced by Muhammad and became his accomplice. Malvo explained how Muhammad took him under his wing as a teenager in Tacoma, Washington. Muhammad, who pretended Malvo was his son, taught him about the Nation of Islam and trained him to shoot. Malvo only saw his father on holidays until he was six years old – this may explain his need for a father figure that got realized in Muhammad. At the trial, when asked for his current thoughts on Muhammad, Malvo described him as a coward.

2) Mohammed Reza Taheri-azar

In 2006, Taheri-azar drove a Jeep Cherokee into a crowd of students at the University of Northern Carolina (UNC) at Chapel Hill. There were no fatalities, but nine people were injured. He drove the car through a popular campus gathering spot called The Pit. After driving his car into the crowd, he called police to surrender and then awaited officers on a street two miles from campus. He then cooperated with investigators. Taheri-azar was charged with nine counts of attempted murder, and nine counts of assault.

Taheri-azar was a loner according to Pantucci’s typology, as he had no contact with other extremists. He was Iranian-born, but held US citizenship and spent most of his life in the United States. He was a 22-year old UNC graduate, having studied psychology and philosophy. Classmates described him as shy and quiet. Taheri-azar was motivated by radical Islam, having told investigators that he wanted to “avenge the deaths or murders of Muslims around the world”. He also asserted at the court hearing that he was “thankful for the opportunity to spread the will of Allah”.

3) Major Nidal Malik Hasan

In 2009, in what is referred to as the Fort Hood Shootings, 39-year- old army psychiatrist Major

Hasan engaged in a shooting rampage with two handguns, killing 13 and injuring 30 others. His victims included military officers as well as civilians.

Hasan was a loner according to Pantucci's typology, and he had been inspired by Al-Awlaki, the radical American-born Yemenite preacher. Hasan was upset by the killing of Muslims in Iraq and Afghanistan, and resisted deployment in either war zone. However, despite his protesting, he had been scheduled for deployment to Iraq at the end of the year.

Hasan became increasingly unhappy as his military career progressed, and he suffered harassment from fellow soldiers who questioned his loyalty. Hasan was described as a loner with lazy work habits and a fixation on his Muslim religion, and he had been promoted to major based on an incomplete personnel file, investigators found. He was single, with no children. A retired colonel, Terry Lee, who worked beside Hasan in a ward, said he had been unhappy about US foreign policy and had made several comments that the United States should not be in Iraq and Afghanistan. Hasan was the son of Palestinian immigrants.

Hasan represented himself in court, in June 2013, using a "defense of others" defense: claiming he was defending Mullah Muhammad Omar and other Taliban leaders in Afghanistan from Fort Hood soldiers. Law experts were baffled by this choice of defense, which is normally used in domestic-violence cases. To claim "defense of others", the threat to others has to be immediate and unlawful, neither of which applies to this case of threat against the Taliban by American soldiers. Evidence from Hasan's computers revealed no links to terrorist groups.

4) Mohammed Merah

Merah's attacks began when he killed a soldier in Toulouse, France, on March 11, 2012. He then engaged in a shooting four days later in Montauban and killed two soldiers. His third attack was on a Jewish school in Toulouse, which resulted in four deaths, three of them children. In total, Merah killed seven and injured five. When police finally entered his apartment, Merah burst out of a bathroom with guns blazing and continued shooting to the end, despite efforts to take Merah alive. All seven victims were shot in the head, most at point-blank range, and authorities said they were carefully targeted because of their religious and ethnic ties. The gunman's first victims were three soldiers of North African origin who had recently returned from Afghanistan.

Merah was 23 years old, and a French national of Algerian origin. He had spent time in Afghanistan and Pakistan, and watched violent jihadist videos online. Neighbors described him as a quiet man, and although he claimed ties to Al Qaeda, French officials believe he acted alone. Merah had a history of criminal charges: he was sentenced 15 times by a Toulouse juvenile court when he was a minor. He was reportedly radicalized while in prison for his juvenile offences. Merah said he had been motivated by the fate of the Palestinians, the French military presence in Afghanistan, and France's ban on the full veil. According to French prosecutors, he had expressed no regrets other than "not having claimed more victims" and was proud of having "brought France to its knees". Days before the attacks, Merah separated from his wife and was suffering "psychological difficulties", according to his lawyer. Additionally, he had lost his job a

couple of years before the attacks, and had then been rejected from joining the French military due to minor offences.

5) Dzhokhar and Tamerlan Tsarnaev

Chechen brothers Dzhokhar and Tamerlan Tsarnaev were the perpetrators behind the Boston Marathon bombing in 2013, which resulted in three deaths and 264 people injured. The brothers calmly left the scene after detonating pressure cooker bombs in successive order at 2:49 pm. They had learned to make the bombs from an online Al Qaeda magazine. The next day, the brothers were involved in a shootout at the MIT campus, killing security officer, Sean Collier. The day after that, they were involved in a car hijacking, taking the driver hostage. With the escape of the driver, officers gained invaluable information that led to the car chase in which Tamerlan was killed. Later that day, Dzhokhar was found in a boat with multiple gunshot wounds and a note detailing the brothers' motivation for the bombings – retribution for the United States' wars and crimes against Muslims in Muslim countries such as Iraq and Afghanistan. The brothers had also considered suicide attacks, and were inspired by Al-Awlaki. Dzhokhar was indicted on charges of using weapons of mass destruction and killing four people.

Tamerlan was the older brother, at 26 years old. He had a wife and child. He had a deep religious epiphany three years before the attack. He found solace in radical Islam when neither his boxing career nor his junior studies worked out. At the time, Tamerlan's new devotion only irritated 19-year old Dzhokhar, although he still looked up to his older brother with immense respect. Gradually, Dzhokhar was influenced by his brother, and although he seemed the same on the outside, he was changing on the inside: his grades plummeted, and he tweeted about his disturbing dreams in the time preceding the attack. Before, Dzhokhar had been well integrated at school: he was a star athlete, a good teammate and captain, and a stellar academic student. However, he had always kept his private life separate and never spoke about his background or his overbearing older brother.

Analysis of Case Studies in Relation to Previous Research

These case studies are for the most part consistent with the previous literature on trends and developments.

Psychopathology and Social Ineptitude

John Allen Muhammad may have suffered from Gulf War Syndrome; his second ex-wife Mildred Muhammad claimed the war had changed his personality.

Mohammed Merah reportedly separated from his wife before the attacks and was suffering "psychological difficulties", according to his lawyer.

The Internet as a Facilitating Factor

Major Nidal Malik Hasan was inspired by Al-Awlaki, the radical preacher whose videos are online and in English.

Mohammed Merah watched violent jihadist videos online.

Dzhokhar and Tamerlan Tsarnaev detonated pressure cooker bombs during the Boston Marathon, using instructions from the online Al Qaeda magazine. Additionally, they were radicalized partly from viewing Al-Awlaki's online videos.

Motivated by Personal Grievances Combined with Broader Goals

John Allen Muhammad was motivated by a combination of anger towards his ex-wife and society, and radical Islamist views. Muhammad suffered two failed marriages, two failed businesses, and the loss of custody of his children. Consistent with previous research, Muhammad became radicalized after personal troubles had already begun – and radical Islam provided an attractive externalizing and justifying narrative. When Muhammad lost custody of his children, this pushed him over the edge and his frustrations turned to violence. This combination can also be seen in Muhammad's end goals: to kidnap his children back and teach homeless Canadians terrorism.

Lee Boyd Malvo, Muhammad's accomplice, was also motivated by a combination of personal grievances and radical Islam. Malvo's father was completely absent from his life from the age of six – he likely followed Muhammad's guidance partly because of his need for a father figure. However, he also learned Islamic teachings and, like Muhammad, used radical Islam to justify his actions.

Major Nidal Malik Hasan was likewise motivated by a combination of personal grievances and radical Islam. Although his military career was progressing, he was increasingly unhappy. He felt he suffered harassment from fellow soldiers who questioned his loyalty. He was also unhappy with the American presence in Iraq and Afghanistan, and the deaths of Muslims in those two war zones. The last straw came when the military scheduled him for deployment to Iraq at the end of the year, despite Hasan making his discomfort clear. Meanwhile, he was becoming increasingly radicalized and fixated on his Muslim religion, as he engaged emails with Anwar Al-Awlaki and eventually engaged in his shooting campaign.

Mohammed Merah was a juvenile delinquent who became radicalized in prison. His Islamic radicalization strengthened as his personal grievances grew, as he lost his job and his application to join the French military was turned down. Then, when he separated from his wife, his radicalization reached its peak and he turned to violence.

Tamerlan Tsarnaev, of the Boston Marathon bombers, was also motivated by this combination of personal grievances and radical Islam. He had a religious epiphany a few years before the attack, and he found solace in radical Islam after his personal failures: neither his boxing career nor his junior studies succeeded.

DISCUSSIONS AND CONCLUSIONS

This study analyzed current trends and developments in lone wolf terrorism. Starting with a literature review, this paper analyzed the dataset to add information to the previous research, and analyzed case studies to examine previously researched trends in-depth.

Analysis of the dataset revealed a number of developments. The United States has the highest level of lone wolf terrorism. The total number of incidents in the United States – and in the Western world in general – is increasing. Second most-targeted countries are the United Kingdom and Germany. Over the past three decades, these three countries remained the most targeted; however, the number of countries targeted by Islamic lone wolves has increased. In the 1990's, only the United States was targeted; from 2010 to 2013, the UK, Germany, France, Denmark, Sweden, Norway, Canada, and Spain have also been attacked.

The United States have improved their ability to stop lone wolf attacks before they are implemented – dispelling the common notion that lone wolves are impossible to prevent. Even though they are unaffiliated and thus harder to trace, their attacks are preventable. It is most difficult to prevent when the attacker has no contact whatsoever with other extremists – Pantucci's loners were seen to be the most successful at carrying out terrorist attacks.

The increased level of military personnel targeted has increased in the last three decades – possibly due to the wars in Iraq and Afghanistan. Islamic terrorists no longer need to blame the West in general; concrete wars can be used to condone violence. This is just an idea, not a research finding, so research would be needed to link the increase in guerilla warfare to the American occupations.

Analysis of the five case studies revealed consistency with previous research themes. Previous research discusses the prevalence of psychopathology and social ineptitude in lone wolf terrorists. The case studies likewise show instances of psychopathology and social ineptitude. This additionally fits with the data analysis from the dataset: loners were seen to be the most prevalent – and successful – type of lone wolf terrorist. Since the case studies were chosen due to their high fatality or injury rate, they represented successful cases. In this way, since loners are most likely to be successful, it is unsurprising that the case studies showed high prevalence of social ineptitude.

Another congruency with previous research was the influence of the Internet. In many of the case studies, the Internet influenced their radicalization. Some specifically were radicalized by Al-Awlaki's YouTube sermons. The Boston Bombers' success was additionally credited to the Internet, where they found their bomb-making recipe that injured 264 people.

Lastly, the case studies supported the previously researched trend that lone wolves are motivated by a combination of personal grievances and broader goals. Almost all of the perpetrators analyzed had immense personal grievances: divorce, custody issues regarding children, job loss, mental illness, harassment, and more. In all the cases, the perpetrators were not religiously

devout all their lives – in most of the cases, radical Islam was used as a comfort after the suffering of personal grievances. Radical Islam was an attractive narrative for these people: it removed the blame from the individual, and externalized their personal problems and blamed Western society. Additionally, it condoned violence, and these people with personal frustrations used that to blame and to vent all of their problems out onto the world that had wronged them.

This study represented an overview of current trends and developments, linked to previous research themes. Future research is needed to look in-depth into each trend, and link the data to Islamic radicalization and, most importantly, prevention techniques.

[Link to Appendix A: Lone Wolf Terrorism Dataset](#)

REFERENCES

1. Bakker, Edwin, and Beatrice de Graaf. (2011). “Preventing Lone Wolf Terrorism: Some CT Approaches Addressed.” *Perspectives on Terrorism* 5, no. 5-6 (2011): 43-50.
2. Bates, Rodger. “Dancing with Wolves: Today’s Lone Wolf Terrorists.” *The Journal of Public and Professional Sociology* 4, no. 1 (2012): 1-14.
3. Hamm, Mark. “Ramon Spaaij. Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention.” Review of *Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention*, by Ramon Spaaij. *Perspectives On Terrorism* 6, no. 3. <http://www.terrorismanalysts.com/pt/index.php/pot/article/view/hamm-understanding-lone-wolf-terrorism>.
4. Hewitt, Christopher. *Understanding Terrorism in America: From the Klan to Al-Qaeda*. New York: Routledge, 2003.
5. Jaspardo, Chris. “Lone Wolf – The Threat from Independent Jihadists.” *WikiLeaks.org*. 2010.
6. Pantucci, Raffaello. *A Typology of Lone Wolves: Preliminary Analysis of Lone Islamist Terrorists*. London: the International Centre for the Study of Radicalisation and Political Violence (ICSR), 2011.
7. Spaaij, Ramon. “The Enigma of Lone Wolf Terrorism: An Assessment.” *Studies in Conflict & Terrorism* 33, no. 9 (2010): 854-870.
8. Spaaij, Ramon. *Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention*. Heidelberg, London, New York: Springer, 2012.
9. Stern, Jessica. “The Protean Enemy.” *Foreign Affairs* 82, no. 4 (2003): 27-40.