

Harming animals and massacring humans: Characteristics of public mass and active shooters who abused animals

Arnold Arluke¹ | Adam Lankford² | Eric Madfis³

¹Department of Sociology & Anthropology, Northeastern University, Boston, MA, USA

²Department of Criminology & Criminal Justice, University of Alabama, Tuscaloosa, AL, USA

³Social Work and Criminal Justice Program, University of Washington, Tacoma, WA, USA

Correspondence

Arnold Arluke, Ph.D., 445 11th Avenue, NE, St Petersburg, FL 33701, USA.

Email: aarluk@gmail.com

Researchers have extensively studied the tendency of certain violent criminals to hurt or torture animals, primarily focusing on domestic abusers and serial killers. However, little is known about the extent or nature of prior animal abuse among active shooters and public mass shooters. Public mass and active shooters essentially represent a single offender type: they are people who commit rampage attacks in public places and attempt to harm multiple victims beyond a single target. The only difference is that “mass” shootings are traditionally defined as cases resulting in the death of four or more victims, while “active” shootings have no minimum threshold. This study aimed to identify all publicly reported cases of active and mass shooters who engaged in animal cruelty, describe the nature of their violence toward animals and humans, and examine how they differ from other perpetrators without this history. Overall, this study found 20 cases of offenders with a publicly reported history of animal abuse. Comparisons between offenders with and without this history indicated that animal-abusing offenders were more likely to be young and White, less likely to die at the crime scene, and more likely to kill and wound a large number of victims. While this finding supports the idea that animal abuse might be a warning sign for a small but deadly minority of mostly youthful offenders, it is likely not a robust signal of future shooters in general because animal abuse is rarely reported in this population of offenders at large.

1 | INTRODUCTION

For decades, researchers have studied the tendency for serial killers to hurt or torture animals. For example, Stone's (2007) study of 111 men who killed their wives, compared with 141 who committed serial sexual homicide, found animal torture to be significantly more common among the serial killers. Moreover, among the serial killers, those who indulged in prolonged torture of their victims were more apt to have a history of animal torture in their youth, when compared with other serial killers who did not subject their victims to torture. Wright and Hensley (2003) found that just over 21% of their sample of 354 serial killers had a known history of childhood animal cruelty – although the authors failed to study the precise nature of that animal cruelty. Ressler, Burgess, and Douglas (1988) similarly determined that among a sample of sexual homicide offenders, 36% perpetrated animal abuse during their childhood, 46% perpetrated animal abuse during their adolescence, and 36% perpetrated animal abuse during their adulthood. Indeed, Johnson and Becker (1997) even found that animal abuse was common in adolescents who fantasized about committing sexually sadistic serial murder.¹

Researchers have also tried to understand how cruelty presents itself in serial killing cases, so it can be used as a warning sign. Calls to use animal abuse as a warning sign of extreme killings are premised on a very vague notion of what constitutes animal cruelty, as noted by critics (Beirne, 2004; Piper, 2003). Every year, for example, organizations like the Massachusetts Society for the Prevention of Cruelty to Animals receive over 5,000 cruelty complaints, with hundreds allegedly being committed by children and adolescents (Arluke & Luke, 1997). The kinds of cruelty incidents reported to these organizations vary enormously in terms of the species of victims, the methods used to harm and/or kill animals, and the number of animals abused by an individual. Many, if not most, of these incidents do not lead to subsequent acts of violence, let alone the extreme torture and killing of multiple human victims. According to Levin and Arluke's (2009) research on sadistic serial killers and Hensley and Tallichet's (2009) research on violent adult criminals in general, a certain type of animal cruelty likely foreshadows this kind of violence. Torturing animals in an up-close and personal way – especially animals like dogs and cats that are frequently targeted for abuse (Felthous, 1981; Felthous & Kellert, 1987) and that have been heavily anthropomorphized in our culture – has been identified as a more apt red flag of this form of extreme violence than everyday animal abuse.

It is unclear whether or not this finding applies more broadly to the animal abuse of active shooters and public mass shooters. Active and public mass shooters essentially represent a single offender type: they are people who commit rampage attacks in public places and attempt to harm multiple victims beyond a single target.² The only difference is that “mass” shootings are traditionally defined as cases resulting in the death of four or more victims, while “active” shootings have no minimum threshold (Blair & Schweit, 2014; Levin & Madfis, 2009). In general, it is clear that serial killers and active/mass shooters have some characteristics in common: both are far more likely to kill strangers than most homicide offenders, both are more likely to commit premeditated than impulsive crimes, and both may have certain personality traits in common, such as entitlement, callousness, and instinctual aggressiveness (Meloy & Felthous, 2004). However, it is unclear whether these similarities extend to their participation in animal abuse, because the subject of animal abuse has largely been ignored in prior studies of active and mass shooters (Gresswell & Hollin, 1994), with a few exceptions (e.g., Arluke & Madfis, 2014; Hempel & Richards, 1999; Leary, Kowalski, Smith, & Phillips, 2003; Verlinden, Hersen, & Thomas, 2000). To shed light on the animal abuse connection to mass shootings, fundamental questions need to be examined, including how common is animal abuse in the histories of both adolescent

¹It is difficult to compare rates of animal abuse among criminals with rates in the general population, because researchers have used such different definitions and methods of data collection in their attempts to measure animal abuse. For example, reported rates of animal abuse among children and adolescents in the United States vary from 10% to 28%, and include acts of various levels of severity (Lea, 2007; Levin & Arluke, 2009; Miller & Knutson, 1997; Offord, Boyle, & Racine, 1991).

²Because this study focused on public mass and active shooters, it did not include offenders who killed family members in a private residence unless that offender also committed an active/public mass shooting. This is consistent with prior research which suggests that family annihilators are a distinct offender type (Kelly, 2010; Lankford, 2016b). Offenders who killed a family member and then killed others in public were included based on their latter crimes.

and adult offenders; what features, if any, distinguish active and mass shooting cases where there is prior animal abuse from those with no apparent abuse; and what is the nature of the animal abuse when it is reported?

Prior discussions of animal abuse and violent crime have often combined mass murderers with other types of extreme killers, speculating that all types of extreme killers are cruel to animals during their childhoods (e.g., Mellor, Yeow, Mamat, & Hapidzal, 2008; Patterson-Kane & Piper, 2009). For example, Lockwood (1999, p. 82–83) wrote that “Retrospective studies of serial killers, mass murderers, arsonists, serial rapists, and sexual homicide perpetrators indicated animal abuse was often a childhood characteristic of these violent offenders.” However, without more careful study of the background of active and mass shooters, in particular, such claims are premature.

Despite some similarities between serial killers and mass shooters, conflating them is unwarranted. For instance, although perpetrators of both types of crime kill multiple victims, serial killers often kill over a series of months or even years, while mass shooters typically kill multiple victims in a single incident. In addition, researchers have pointed out that serial killers and mass shooters often have different psychological profiles (Fox & Levin, 1998), which would argue against such conflation. Serial homicides often involve sexual assault, sadistic torture, and excessive pre- or post-mortem dismemberment and mutilation, while mass murderers rarely engage in these heinous acts (Fox & Levin, 1998; Fox, Levin, & Fridel, 2018; Levin & Fox, 1999).

In addition, the psychological traits of serial killers and mass killers reportedly differ in some respects. Most serial killers suffer from a personality disorder (LaBrode, 2007) and many appear to meet the threshold to be designated as psychopaths (Morana, Stone, & Abdalla-Filho, 2006), but the same does not appear true of mass killers. Compared with serial killers, mass murderers also seem considerably less likely to demonstrate psychopathic personalities (Fox, Levin, & Quinet, 2011). The latter might be depressed (e.g., Madfis, 2014a; Verlinden et al., 2000), narcissistic (e.g., Bushman, 2018; Cantor, Mullen, & Alpers, 2000), and have some antisocial traits (e.g., Hempel, Levine, Meloy, & Westermeyer, 2000), but most do not have histories of personality disorder (Hickey, 2013) or psychotic behavior involving delusions, hallucinations, or psychological breaks with reality (e.g., Fox et al., 2018; Madfis, 2017; McGee & DeBernardo, 1999). On the surface, then, we cannot assume that active/mass shooters and serial killers would derive the same psychological gratification from abusing animals, and therefore commit the same kinds of cruelty, let alone commit it with the same frequency.

Further cautioning against such conflation, findings have been mixed or unclear about the prevalence of animal cruelty as a precursor to active and mass shootings. Some studies report only a few instances of prior animal cruelty compared with its more common appearance among serial killers. For example, in an extensive examination of school shootings conducted jointly by the US Secret Service and the Department of Education (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002), researchers found that only five of the 41 shooters they investigated had a history of animal abuse, leading the authors to conclude that “very few of the attackers were known to have harmed or killed an animal” (p. 22). Other studies have shown somewhat unclear or ambiguous findings about such cruelty's prevalence prior to mass shootings. These studies report a history of cruelty without noting its exact prevalence, so it is impossible to know if it is an infrequent or more common event preceding this form of multiple homicide. For example, Gill, Silver, Horgan, and Corner (2017) found criminal convictions of various sorts in 43% of their sample of mass shooters, with animal abuse being only one of many types of previous convictions. However, because the authors did not separate the frequencies of each type of conviction, they did not clarify the nature or significance of prior animal abuse as a potential warning sign for mass murder. Thus, far more information is necessary to properly understand the connection between animal abuse and active or mass shootings.

2 | THE PRESENT STUDY

This study will focus on public mass shooters and active shooters with a history of animal abuse. As an offender type, public mass shooters and active shooters are considered psychologically and behaviorally distinct from other types of mass murderers, including those who engage in gang violence, drug trafficking, familicide, group acts of

genocide or terrorism, or other forms of felony mass murder (Follman, Aronsen, & Pan, 2018; Kelly, 2010; Lankford, 2015, 2016b).

The present study had three primary goals: (1) to identify all publicly reported cases of public mass shooters and active shooters from January 1966 to March 2018 who had a prior history of animal abuse; (2) to analyze the nature of these offenders' violence toward animals and humans; and (3) to assess how offenders with a history of animal abuse differ from the offenders without that history.

Regarding our first goal, because public perceptions and legal definitions of animal abuse and animal cruelty vary, it was important to develop a clear standard for this study. To qualify, cases had to involve someone deliberately inflicting harm, suffering, or death upon an animal that is not socially and legally sanctioned. Not included were cases of animal neglect, minor animal discipline for training purposes, hunting or fishing for sport, or harm solely of insects. This does not necessarily mean that these latter types of animal harm are meaningless; for example, it is possible that the experience of hunting animals desensitizes the hunter to violence in a way that makes the act of killing somewhat easier, regardless of the target (Henderson, 1986). Along these lines, the 1966 University of Texas Tower shooter was a regular hunter, the 1989 École Polytechnique attacker enjoyed shooting pigeons, and the 2017 Las Vegas shooter was a licensed hunter and fisherman.³ However, this study is focused on the most explicit types of animal abuse, such as beating or shooting pets, setting animals on fire, torturing or mutilating animals, and more (see, for example, Vermeulen & Odendaal, 1993). To be included, the animal abuse had to occur in the individual's pre-attack history, which meant that offenders who harmed an animal during their mass shooting would not qualify on that basis alone. For example, the 2009 Geneva County massacre involved the killer setting his mother's four dogs on fire during the course of the same attack in which he killed the rest of his family. However, as research examining the link between animal and human violence has traditionally meant that animal abuse predates, if not predicts, human violence (Arluke & Madfis, 2014), observation of this pattern represented the focus of our data collection and analyses.

For our second goal, we analyzed the nature of these offenders' violence towards animals and humans in several ways. First, for each qualifying case, we documented whether the offender committed the animal abuse during childhood (before age 18), at close range (as opposed to shooting from afar), by targeting cats or dogs (as opposed to other animals), and by mutilating the victim (i.e., desecration, dismemberment, or disfigurement of the animal's body). On an exploratory basis, we also identified other unusual or noteworthy aspects of the animal abuse that warranted discussion. Regarding offenders' violence towards humans, we coded the number of human victims who were wounded and killed, along with whether the offender died at the crime scene, which is often by suicide or suicide-by-cop and may constitute self-harm (Lankford, 2015; Lindsay & Lester, 2004; Mullen, 2004).

For our third goal, we compared offenders with a history of animal abuse and offenders without that history. It was impossible to test for statistically significant differences between all active and mass shooters we found with a history of animal abuse and all active and mass shooters (or even a representative sample) without that history, because global data on active shooters do not exist and cannot be accurately estimated (Lankford, 2016a). Therefore, we limited this part of our study to the population of 88 public mass shooters who attacked in the United States from January 1982 to March 2018 and killed at least four victims (according to a dataset compiled by Mother Jones). We classified each of these 88 individuals as either having a publicly reported history of animal abuse, or not having that history, and then made quantitative comparisons between the two groups. Because this part of our study was focused solely on public mass shooters, it did not include active shooters who killed fewer than four victims (whether or not they engaged in animal abuse). More information about these comparisons will be provided in the following sections.

³No names of mass/active shooters are included in this text, in line with Lankford and Madfis's (2018) proposal to deny offenders the fame they often desire.

2.1 | Data sources

To find publicly reported cases of attackers with a history of animal abuse, we searched primary source documents (such as offenders' journals and manifestos), prior scholarly research on mass shooters and active shooters, government reports on mass shooters and active shooters, media reports on mass shooters and active shooters, online academic databases, Google, and Google Scholar. In the primary source documents, prior scholarly research, and government reports on mass shooters and active shooters, we cast a wide net by searching for all references to "animals," "pets," "cats," "dogs," "birds," and "reptiles," and then reviewing each of those references to see if they pertained to animal abuse. This was a highly labor-intensive process, because most references to these search terms did not contain descriptions of abuse or cruelty and each "hit" had to be reviewed manually. Also, sometimes animal descriptions are used to refer to human beings; for example, the 2015 Isla Vista shooter referred to fellow students as ugly, obnoxious, and savage "animals," and then wrote about slaughtering his enemies "like the animals they are." However, the benefit of this search methodology was that we were more likely to find qualifying cases than if we used more restrictive search terms. In addition to this approach, we also searched media reports, online academic databases, Google, and Google Scholar by combining offender descriptions such as "mass shooter"/"active shooter" with behavioral terms such as "animal abuse"/"animal cruelty." We also searched many individual offenders' backgrounds and biographies for evidence of animal abuse in that information.

To assess how offenders with a history of animal abuse differ from offenders without that history, we used a dataset on 88 public mass shooters in the United States who attacked from January 1982 to March 2018 and killed four or more victims. The dataset is hosted by Mother Jones, a non-profit news organization, and its data collection was overseen by Follman et al. (2018), the former of whom serves as a national affairs editor and has previously worked to correct popular misconceptions about mass shootings. To supplement this dataset, additional information on the characteristics and behavior of offenders was drawn from scholarly research, government reports, and media reports, all of which have been commonly used by researchers studying mass shooters in the past (Kelly, 2010; Lankford, 2016a).

2.2 | Limitations

We recognize that finding all cases of mass shooters and active shooters with a prior history of animal abuse may be impossible, and some cases of animal abuse will likely remain unknown. Most incidents of animal abuse are not reported, and state and federal agencies have historically not compiled official records of animal abuse cases, as is typically done for violent crimes against humans (Humane Society, N.D.). In 2014, however, the FBI began tracking animal abuse cases (Itkowitz, 2016). Although it is common for many types of crimes to go unreported to the police – including theft, domestic abuse, and sexual assault – researchers typically try to account for this by conducting victimization surveys (Skogan, 1977; Truman & Langton, 2015). When studying animal abuse, however, that alternative obviously does not exist, because the victims cannot speak for themselves. As a result, most cases of animal abuse are only known if someone witnessed the abuse or after-effects, or because the offenders themselves openly admitted what they did. In some of these cases, it is also difficult to verify the accuracy of alleged abuse: it is always possible that some witnesses or offenders might have lied or provided misleading information about incidents of animal cruelty. Despite these challenges, it is possible for researchers to study the cases that have been publicly reported, which was the goal here. Because the relationship between animal abuse and mass/active shooters is such a profoundly understudied area, this study represents a new contribution to the field.

3 | RESULTS

Overall, this study found 20 cases of public mass shooters and active shooters with a publicly reported history of animal abuse. In raw numbers, this research effort has identified significantly more animal-abusing offenders than any prior study (Arluke & Madfis, 2014; Leary et al., 2003; Verlinden et al., 2000; Vossekuij et al., 2002). However, of

the 88 public mass shooters who attacked in the United States from January 1982 to March 2018 and killed four or more victims, only nine offenders (10.2%) had a history of animal abuse. As a proportion of total offenders, this number is relatively low, and thus appears consistent with the United States Secret Service's finding that very few school shooters "were known to have harmed or killed an animal" (Vossekuil et al., 2002, p. 22). It should be noted, however, that animal abuse appeared more common among certain subsets of this sample of 88 public mass shooters. More specifically, 16.7% of White mass shooters, 25.0% of young mass shooters under age 25, and 35.3% of young White mass shooters under age 25 had a reported history of animal abuse.

There was significant variation both chronologically and geographically. Overall, we found one animal-abusing offender in the 1970s, two in the 1980s, 12 in the 1990s, and five since 2011. Because reliable data do not exist on whether animal abuse in the general population has been increasing or decreasing, the variation in this study is difficult to interpret. In general, respect for animal rights has been on the rise (Pinker, 2011), but it is unclear whether that has led to a change in animal abuse rates, a change in animal abusers' recognition of the need to hide their crimes from being discovered and reported, both, or neither. Geographically, the vast majority of animal abusers were found in the United States. Notable exceptions include the 1996 Port Arthur shooter in Australia, the 1996 Dunblane Primary School shooter in Scotland, and the 2011 Workers' Youth League shooter in Norway.

Table 1 presents descriptive statistics for offenders with a history of animal abuse. Almost all of them were male (95%) and White (95%). They averaged 25.7 years old at the time of their attacks, and ranged in age from 11 to 59. There was also a significant range in the number of victims they killed (2–69) and wounded (0–319). When it comes to the resolution of their attacks, 45% died at the crime scene after committing suicide or being shot by law enforcement.

There were also several common features of the animal abuse perpetrated by these individuals. For instance, in the majority of cases, the abuse was committed during the offender's childhood (75%), it was committed at close range (75%), and it included cats or dogs as the victims (65%). In more than one-third of the cases (35%), the mass shooter or active shooter engaged in mutilation of the animal's body.

Table 2 provides a list of the specific active and mass shooters with a history of animal abuse, along with descriptions of the animal abuse and cruelty in which each individual engaged. The details are disturbing, and include offenders disemboweling a toad, dissecting live squirrels, decapitating cats, trying to maim baby potbelly pigs, blowing up cows, snapping a dog's neck, setting tails of dogs and cats on fire, tying neighborhood dogs and cats to a fence with wire and mutilating them, and beating a dog in a plastic bag and setting it on fire. The attack location for each offender is also provided in this table; the majority of offenders (60%) attacked at schools.

Table 3 presents the results of the comparisons between public mass shooters with a history of animal abuse ($n = 9$) and those without ($n = 79$) who attacked in the United States from 1982 to 2018. (Again, this part of the

TABLE 1 Descriptive statistics on active and mass shooters with a publicly reported history of animal abuse

Variable	Mean or %	SD	Median	Minimum	Maximum
Offender age	25.7	13.4	18.5	11	59
Offender sex (% male)	95%				
Offender race (% White)	95%				
Victims killed	13.4	16.5	5.0	2	69
Victims wounded	26.9	69.2	10.0	0	319
Offender died at crime scene?	45%				
Committed animal abuse during childhood?	75%				
Committed animal abuse at close range?	75%				
Abused cats or dogs?	65%				
Mutilated animals?	35%				

Note: Time period studied: January 1966 to March 2018 ($N = 20$).

TABLE 2 List of active and mass shooters with a publicly reported history of animal abuse

Offender	Description of animal abuse and cruelty
1979 Cleveland Elementary School shooter	She "set tails of dogs and cats on fire" (Los Angeles Times, 1987).
1984 San Ysidro McDonald's shooter*	He "shot a neighbor's dog" (Los Angeles Times, 1987).
1986 Edmond post office shooter*	He stole neighbors' dogs and cats, tied them to a fence with wire, and "mutilated them" (Los Angeles Times, 1987; Times Wire Services, 1986).
1993 Kenosha McDonald's shooter	He admitted intentionally killing his own pets: "I killed all the lizards. And the fish, a lot of fish I killed" (Torres, 1993).
1994 Ryle High School shooter	He shot birds and reportedly "kicked his caged Dalmatians" (Arluke & Madfis, 2014; Langman, 2018).
1996 Dunblane Primary School shooter	He "spent hours trying to squash rabbits under the wheel of his car" (BBC News, 2001).
1996 Port Arthur shooter	He "tortured animals as a child"; shot a parrot and mutilated its head; told his girlfriend he'd had sex with a horse (Lang, 2009; Wainwright & Totaro, 2009).
1997 Bethel Regional High School shooter	He was known to "throw rocks at dogs for amusement" (Verlinden et al., 2000).
1997 Pearl High School shooter	He admitted he "tortured and killed his own dog by beating it in a plastic bag and setting it on fire" (Arluke & Madfis, 2014).
1997 Heath High School shooter	He "had talked about throwing a cat into a bonfire" (Newman, 2004).
1998 Westside Middle School shooter (younger offender)*	He "killed [a neighbor's] cat by shooting it with a pellet gun and placing it with her garbage" (Arluke & Madfis, 2014).
1998 Westside Middle School shooter (older offender)*	He "shot a dog and cat" and "killed animals" (Arluke & Madfis, 2014; Leary et al., 2003).
1998 Thurston High School shooter*	He "decapitated cats, dissected live squirrels, blew up cows, set a live cat on fire, and put firecrackers in gophers and cats" (Arluke & Madfis, 2014).
1999 Columbine School shooter (younger offender)*	He "boasted about mutilating animals for fun," along with co-offender (Arluke & Madfis, 2014).
1999 Columbine School shooter (older offender)*	He "boasted about mutilating animals for fun," along with co-offender (Arluke & Madfis, 2014).
2011 Norway Workers' Youth League shooter	In general, he "was cruel to animals." He would torment pet rats in a cage and put bumblebees in water so "he could watch them drown." Neighbors "made it clear to their children that [he] was not to come anywhere near their cats or dogs" (Seierstad, 2015).
2015 Lafayette movie theater shooter	He followed a sick cat and "bashed it on the head with a piece of rebar" to kill it, and said that in general, he wanted to drug sick pets and "finish them off with an ax" (Schapiro, 2015).
2015 Roanoke television shooter	He admitted that after being angry about getting fired from work, "he killed his two cats" and buried them in a forest (Shear & Nir, 2015).
2017 Sutherland Springs church shooter*	He bragged "about snapping his pet dog's neck when he was just 10 years old," pleaded guilty to animal cruelty for punching a dog as an adult, and told a coworker he was buying dogs on Craigslist to shoot for "target practice" (Griffith & Farberov, 2017; Silva, 2017).
2018 Stoneman Douglas High School shooter*	His animal cruelty included "shooting squirrels and chickens," disemboweling a toad, trying to "maim a neighbor's baby potbelly pigs" and trying to "crush animals trapped in rabbit holes." (Arluke, 2018a; Murphy, 2018).

Note: No names of mass/active shooters are featured, in line with Lankford and Madfis's (2018) proposal to deny offenders the fame they often desire. Public mass shooters who killed four or more victims and attacked in the United States are denoted with an asterisk.

TABLE 3 Comparison of public mass shooters in the United States with and without a publicly reported history of animal abuse, 1982–2018

Variable	Public mass shooters with a reported history of animal abuse N = 9 Mean	Public mass shooters without a reported history of animal abuse N = 79 Mean	T-test	Fisher's exact test
Offender age	22.7	35.2	2.92**	
Offender sex	100% male	96% male		0.35
Offender race	100% White	57% White		6.31*
Victims killed	13.3	8.8	-1.51	
Victims wounded	16.9	16.3	-0.02	
Victims killed, outlier removed ^a	13.3	8.1	-2.18*	
Victims wounded, outlier removed ^a	16.9	7.5	-2.39*	
Offender died?	56%	72%		1.07

Note: The analysis was of all 88 public mass shooters who attacked in the United States from January 1982 to March 2018 and killed at least four victims [according to a dataset compiled by Mother Jones; see Follman et al., 2018].

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$.

^aOutlier was the 2017 Las Vegas mass shooting, which resulted in 58 victims killed and approx. 700 wounded.

study did not include active shooters who killed fewer than four victims, because population data on active shooters were not available.) Within this sample, there was very little difference in offender sex: both the animal abusers and non-animal abusers were male in more than 96% of cases. However, offenders with a history of animal abuse were significantly younger ($M = 22.7$ years old) than offenders without that history ($M = 35.2$ years old) ($p < 0.01$). In addition, there was also a statistically significant difference in race: 100% of the animal-abusing offenders were White, whereas 57% of public mass shooters without a history of animal abuse were White ($p < 0.05$).

In the United States, the public mass shooters with a history of animal abuse also harmed more victims ($M = 13.3$ victims killed; $M = 16.9$ victims wounded) than the average harmed ($M = 8.8$ victims killed; $M = 16.3$ victims wounded) by non-animal abusers. When the 2017 Las Vegas shooting was removed from the analysis because it represented such an extreme outlier (with 58 victims killed and approximately 700 wounded), the differences between animal abusers ($M = 13.3$ victims killed; $M = 16.9$ victims wounded) and non-animal abusers ($M = 8.1$ victims killed; $M = 7.5$ victims wounded) became statistically significant ($p < 0.05$). The animal abusers were also less likely to die at the crime scene ($M = 56\%$) than were the other offenders ($M = 72\%$), although this result was not statistically significant.

It is important to emphasize that all of the aforementioned findings on differences between public mass shooters with and without a history of animal abuse in the United States are further supported by our broader findings on the 20 animal-abusing active and mass shooters worldwide. In other words, much like the nine animal-abusing public mass shooters who were included in the quantitative comparisons, the remaining 11 animal abusers were similarly young ($M = 28.1$ years old), White (90.9%), and unlikely to die at the scene (only 36.4% died), and they similarly harmed large numbers of victims ($M = 13.7$ victims killed; $M = 35.5$ victims wounded). Therefore, beyond our narrower analysis of the nine public mass shooters in the United States, our broader findings on all 20 cases of active/mass shooters provide additional evidence that active and mass shooters with a history of animal abuse appear more likely to be young and White than other offenders, less likely to die at the crime scene, and more likely to kill and wound a large number of victims.

4 | DISCUSSION

To date, this study is the largest one of active shooters and public mass shooters who appear to have engaged in animal abuse. However, we could find only 20 offenders with a publicly reported history of this cruel behavior. Likewise, only 10.2% of public mass shooters who attacked in the United States from 1982 to 2018 had a reported history of animal abuse, which is a relatively low proportion. Although these results are consistent with prior findings from the US Secret Service (Vossekuil et al., 2002), they limit our ability to draw firm conclusions about patterns or profiles, given the relatively small number of animal-abusing offenders. However, it is possible to offer several hypotheses about the prevalence of animal abuse among this offender type and its potential implications.

As noted earlier, somewhat higher proportions of young and White mass public shooters had a history of animal abuse, but even these proportions were relatively low compared with other forms of multiple homicide. For example, Levin and Arluke's (2009) study found that nearly 90% of their sample of sadistic serial killers had abused animals. This lower prevalence of animal abuse among active and mass shooters could partially reflect differences in reporting coverage, rather than genuine differences in the rates of animal abuse. For example, the life histories of some active/mass shooters may receive less media coverage than those of serial killers, especially if they killed only a few victims (which generates less media attention, as shown by Schildkraut, Elsass, & Meredith, 2017) or attacked later in life when details about their childhood would be harder to find. However, this difference in the prevalence of animal abuse could also be due to real psychological differences between active/mass shooters – who are typically not psychopaths – and sadistic serial killers, who tend to demonstrate profound psychopathy, as discussed earlier. While animal abuse and serial killing may sometimes be different manifestations of similar desires to torture a victim or get sadistic pleasure from seeing a victim suffer, mass/active shooters are typically not attracted to sadism/torture in the same way (Fox et al., 2018).

At the same time, it is possible that the subset of active/mass shooters with a history of animal abuse may have more in common with animal-abusing serial killers than most active/mass shooters do. For instance, this study found that active/mass shooters who engaged in animal abuse were more likely to be young, less likely to die at the crime scene by suicide or being killed by police, and more likely to kill and wound a high number of victims than active/mass shooters in general. Similarly, serial killers are typically young when they start engaging in troubling behaviors, are rarely suicidal, and often do not stop killing new victims by choice, but rather continue for as long as they can (Fox et al., 2018). This finding could possibly explain why animal-abusing active/mass shooters in our study are less likely to commit suicide – only 45% of animal-abusing active/mass shooters died (typically by suicide or suicide by cop) upon the completion of their massacres – while active and mass shooters more generally are far more likely to die in the wake of their attacks.

Animal-abusing active/mass shooters also may be more likely to be high in psychopathic traits, such as being callous and unemotional (Hare, 2007; Roose, Bijttebier, Decoene, Claes, & Frick, 2010), which would be another similarity with serial killers. If that is indeed the case, it would also be consistent with our findings on the severity of the animal abuse in which active and mass shooters engaged, and what that may suggest about their psychology. Of the active/mass shooters with a history of animal abuse, seven out of 20 (35%) engaged in mutilation, which is similar to the behavior of some psychopathic serial killers who have mutilated and tortured their victims.

Additionally, in the majority of cases, the animal abuse was committed at close range and entailed abuse of cats and dogs, which is also consistent with prior studies of serial killers (Levin & Arluke, 2009) and school shooters (Arluke & Madfis, 2014), which similarly found that this particular type of animal abuse was most closely associated with serious human violence. This prior research also suggests that that animal abuse directed against anthropomorphized species (dogs and cats) in an up-close manner may be a far better predictor of future human violence than other types of animal cruelty (Arluke & Madfis, 2014; Levin & Arluke, 2009).

There is also evidence that human resistance to killing increases as distance to one's victim decreases (Grossman, 1995). Presumably, those who are most disturbed, most lacking in conscience, or most determined to kill would therefore be less inhibited by abusing animals (or humans) at close range. Psychopathic traits among this subset of

offenders could also explain why 75% of the active/mass shooters in our study committed their animal abuse during childhood, and then began killing humans shortly thereafter. For the majority of them, that meant committing school shootings, which was the most common attack location among the animal-abusing active and mass shooters.

Some additional points warrant further discussion. For instance, the finding that nearly our entire sample of animal-abusing active and mass shooters was White may be partially explained by social and cultural factors. White people in the United States are more likely to own pets than other demographic groups: approximately 3.1 times more likely to own dogs and 4.6 times more likely to own cats (Pew, 2010; Saunders, Parast, Babey, & Miles, 2017), and thus White people have more opportunities to abuse them. In addition, because the United States has significant clustering and *de facto* segregation by race/ethnicity (Stahl, 2013), White people are, on average, more likely to live near other pet owners and therefore have more opportunities to abuse pets without needing to leave their own neighborhoods – whether those animals are owned by them, their families, or their neighbors.

Additionally, it may be that racial and ethnic differences in perceptions of animal abuse lead to differences in reporting, as some people of different racial and ethnic backgrounds tend to view pet ownership and animal rights very differently. Racial and ethnic differences may also be partially moderated by socioeconomic status. Arluke's (2018b) recent ethnography of pet owners found that animal harm is less likely to be reported to animal control officers or police in poor Black neighborhoods than in White and/or middle- and upper-income ones. In addition, individuals in economically disadvantaged communities may be less inclined to report animal abuse to authorities because they are reluctant to have any contact with law enforcement agencies in general. It is also possible that non-White people are simply less likely to abuse animals for various social or cultural reasons.

5 | CONCLUSION

Although the number of cases is relatively small, this study provides further evidence that particular forms of animal abuse may be closely associated with certain types of extreme forms of human violence. That is, our study suggests that much like with serial killers, active/mass shooters who had histories of animal abuse in our sample were often involved in close-up harm perpetrated against dogs and cats. This finding may further suggest that these types of active/mass shooting offenders more often have psychopathic traits than active/mass shooters in general. That said, as relatively few of the active/mass shooters in our sample had documented histories of animal abuse, it is likely not a robust signal of future shooters in general.

Future research that examines these animal-abusing offenders in more depth may be able to shed valuable light on their psychological traits and pathways to mass murder. There are many potential factors that could warrant additional scrutiny. For example, it is well established that the vast majority of mass shooters are male (Kelly, 2010; Madfis, 2014b) and that a substantial proportion are fame-seekers (Lankford & Madfis, 2018). Given that recent animal-abusing mass shooters, such as the 2017 Sutherland Springs church shooter and the 2018 Parkland shooter, openly bragged about harming animals, it is worth investigating how their abusive behavior may interact with toxic masculinity and attention-seeking desires (Madfis, 2014b). Ultimately, any scientific progress that improves our ability to predict and prevent aggressive behavior – whether the targets are human or non-human animals – could help us to forge a healthier society.

ACKNOWLEDGEMENTS

The authors would like to thank Dr. Jack Levin for encouraging this project and commenting on its research design.

REFERENCES

- Arluke, A. (2018a). How reliably does animal torture predict a future school shooter? The Washington Post. Retrieved from <http://wapo.st/2ofJtek>
- Arluke, A. (2018b). Pets in poverty. Unpublished report to the Humane Society of the United States, Washington, DC.

- Arluke, A., & Luke, C. (1997). Physical cruelty toward animals in Massachusetts, 1975-1996. *Society & Animals*, 5(3), 195-204.
- Arluke, A., & Madfis, E. (2014). Animal abuse as a warning sign of school massacres: A critique and refinement. *Homicide Studies*, 18(1), 7-22.
- BBC News. (2001). Pet cruelty study 'warning.' Retrieved from http://news.bbc.co.uk/2/hi/uk_news/scotland/1349939.stm
- Beirne, P. (2004). From Animal abuse to interhuman violence? A critical review of the progression thesis. *Society & Animals*, 12(1), 39-65.
- Blair, J. P., & Schweit, K.W. (2014). A study of active shooter incidents, 2000-2013. Texas State University and Federal Bureau of Investigation, US Department of Justice, Washington, D.C.
- Bushman, B. J. (2018). Narcissism, same seeking, and mass shootings. *American Behavioral Scientist*, 62, 229-241.
- Cantor, C., Mullen, P., & Alpers, P. (2000). Mass homicide: The civil massacre. *Journal of the American Academy of Psychiatry and the Law*, 28, 55-63.
- Felthous, A. R. (1981). Childhood cruelty to cats, dogs and other animals. *The Bulletin of the American Academy of Psychiatry and the Law*, 9(1), 48-53.
- Felthous, A. R., & Kellert, S. R. (1987). Psychosocial aspects of selecting animal species for physical abuse. *Journal of Forensic Science*, 32(6), 1713-1723.
- Follman, M., Aronsen, G., & Pan, D. (2018). U.S. mass shootings, 1982-2018: Data from Mother Jones' investigation. *Mother Jones*. Retrieved from <https://www.motherjones.com/politics/2012/12/massshootings-mother-jones-full-data/>
- Fox, J., Levin, J., & Fridel, E. (2018). *Extreme killing: Understanding serial and mass murder*. Thousand Oaks, CA: Sage Books.
- Fox, J. A., & Levin, J. (1998). Multiple homicide: Patterns of serial and mass murder. *Crime and Justice*, 23, 407-455.
- Fox, J. A., Levin, J., & Quinet, K. (2011). *The will to kill: Making sense of senseless murder* (4th ed.). Boston, MA: Allyn & Bacon.
- Gill, P., Silver, J., Horgan, J., & Corner, E. (2017). Shooting Alone: The pre-attack experiences and behaviors of US solo mass murderers. *Journal of Forensic Sciences*, 62(3), 710-714.
- Gresswell, D. M., & Hollin, C. R. (1994). Multiple murder: A review. *The British Journal of Criminology*, 34(1), 1-14.
- Griffith, K., & Farberov, S. (2017). First wife of Texas shooter say he killed his dog as a child. Daily Mail. Retrieved from <http://dailymail.com/2AGZq11>
- Grossman, D. (1995). *On killing: The psychological cost of learning to kill in war and society*. Boston: Little, Brown and Company.
- Hare, R. D. (2007). Psychological instruments in the assessment of psychopathy. In A. Felthous, & H. Sass (Eds.), *The International Handbook of Psychopathic Disorders and the Law: Diagnosis and Treatment, Volume I* (pp. 41-67). New York: Wiley.
- Hempel, A., Levine, R., Meloy, J., & Westermeyer, J. (2000). A cross-cultural review of sudden mass assault by a single individual in the Oriental and Occidental cultures. *Journal of Forensic Sciences*, 45, 582-588.
- Hempel, A. G., & Richards, T. C. (1999). Offender and offense characteristics of a nonrandom sample of mass murderers. *Journal of the American Academy of Psychiatry and the Law Online*, 27(2), 213-225.
- Henderson, C. (1986). *Marine sniper: 93 confirmed kills*. New York: Stein and Day.
- Hensley, C., & Tallichet, S. E. (2009). Childhood and adolescent animal cruelty methods and their possible link to adult violent crimes. *Journal of Interpersonal Violence*, 24(1), 147-158.
- Hickey, E. (2013). *Serial murderers and their victims*. Cengage Learning. Humane Society of the United States. (No Date). Animal Cruelty Facts and Stats. Retrieved from http://www.humanesociety.org/issues/abuse_neglect/facts/animal_cruelty_facts_statistics.html
- Itkowitz, C. (2016). A big win for animals: The FBI now tracks animal abuse like it tracks homicides. Retrieved from https://www.washingtonpost.com/news/inspired-life/wp/2016/01/06/a-big-win-for-animals-the-fbi-now-tracks-animal-abuse-like-it-tracks-homicides/?utm_term=.54e7d184b4f8.
- Johnson, B., & Becker, J. (1997). Natural born killers?: The development of the sexually sadistic serial killer. *Journal of the American Academy of Psychiatry and the Law Online*, 25(3), 335-348.
- Kelly, R. (2010). Active shooter report: Recommendations and analysis for risk mitigation. New York: New York City Police Department.
- LaBrode, R. T. (2007). Etiology of the psychopathic serial killer: An analysis of antisocial personality disorder, psychopathy, and serial killer personality and crime scene characteristics. *Brief Treatment and Crisis Intervention*, 7(2), 151-160.
- Lang, K. (2009). Cruelty against animals is no minor misdemeanor. The Courier Mail. Retrieved from <http://www.couriermail.com.au/news/news-story/eed187605f4d5107ffeb084d0954a49d>

- Langman, P. (2018). School shooters: A miscellany. SchoolShooters.Info. Retrieved from <https://schoolshooters.info/school-shooters-miscellany>
- Lankford, A. (2015). Mass shooters in the USA, 1966-2010: Differences between attackers who live and die. *Justice Quarterly*, 32(2), 360-379.
- Lankford, A. (2016a). Public mass shooters and firearms: A cross-national study of 171 Countries. *Violence and Victims*, 31(2), 187-199.
- Lankford, A. (2016b). Race and mass murder in the United States: A social and behavioral analysis. *Current Sociology*, 64(3), 470-490.
- Lankford, A., & Madfis, E. (2018). Don't name them, don't show them, but report everything else: A pragmatic proposal for denying mass shooters the attention they seek and deterring future offenders. *American Behavioral Scientist*, 62(2), 260-279.
- Lea, S. R. G. (2007). *Delinquency and animal cruelty*. New York: LFB Scholarly Publishing.
- Leary, M. R., Kowalski, R. M., Smith, L., & Phillips, S. (2003). Teasing, rejection, and violence: Case studies of the school shootings. *Aggressive Behavior*, 29, 202-214.
- Levin, J., & Arluke, A. (2009). Refining the link between animal abuse and subsequent violence. In A. Linzey (Ed.), *The link between animal abuse and violence* (pp. 163-171). Sussex Academic Press.
- Levin, J., & Fox, J. A. (1999). Making Sense of Mass Murder. In V. B. Van Hasselt, & M. Hersen (Eds.), *Handbook of psychological approaches with violent offenders: Contemporary strategies and issues* (pp. 173-187). New York, NY: Kluwer Academic/Plenum Press.
- Levin, J., & Madfis, E. (2009). Mass murder at school and cumulative strain: A sequential model. *American Behavioral Scientist*, 52(9), 1227-1245.
- Lindsay, M., & Lester, D. (2004). *Suicide by cop: Committing suicide by provoking police to shoot you*. Amityville, NY: Baywood.
- Lockwood, R. (1999). Animal cruelty and violence against humans: Making the connection. *Animal Law*, 5, 81-87.
- Los Angeles Times. (1987). Cruelty and criminality linked. Retrieved from http://articles.latimes.com/1987-08-11/local/me-802_1_animal-cruelty
- Madfis, E. (2014a). *The risk of school rampage: Assessing and preventing threats of school violence*. New York, NY: Palgrave Macmillan.
- Madfis, E. (2014b). Triple entitlement and homicidal anger: An exploration of the intersectional identities of American mass murderers. *Men and Masculinities*, 17(1), 67-86.
- Madfis, E. (2017). In search of meaning: Are school rampage shootings random and senseless violence? *The Journal of Psychology: Interdisciplinary and Applied*, 151(1), 21-35.
- McGee, J., & DeBernardo, C. (1999). The classroom avenger. *Forensic Examiner*, 16-18.
- Mellor, D., Yeow, J., Mamat, N., & Hapidzal, N. (2008). The relationship between childhood cruelty to animals and psychological adjustment: A Malaysian study. *Anthrozoös*, 21(4), 363-374.
- Meloy, J. R., & Felthous, A. R. (2004). Introduction to this issue: Serial and mass homicide. *Behavioral Sciences and the Law*, 22, 289-290.
- Miller, K. S., & Knutson, J. F. (1997). Reports of severe physical punishment and exposure to animal cruelty by inmates convicted of felonies and by university students. *Child Abuse and Neglect*, 21, 59-82.
- Morana, H. C., Stone, M. H., & Abdalla-Filho, E. (2006). Personality disorders, psychopathy, and serial killers [Transtornos de personalidade, psicopatia e serial killers]. *Revista Brasileira de Psiquiatria*, 28(Supl II), S74-S79.
- Mullen, P. E. (2004). The autogenic (self-generated) massacre. *Behavioral Sciences and the Law*, 22, 311-323.
- Murphy, P. (2018). Exclusive: Group chat messages show school shooter obsessed with race, violence and guns. CNN. Retrieved from <http://cnn.it/2o5Gght>
- Newman, S.C. (2004). Domestic violence strikes pets, too. St. Louis Post-Dispatch. Retrieved from <http://www.ncdsv.org/images/DomesticViolenceStrikesPetsToo.pdf>
- Offord, D. R., Boyle, M. H., & Racine, Y. A. (1991). The epidemiology of antisocial behavior in childhood and adolescence. In D. J. Pepler, & K. H. Rubin (Eds.), *The development and treatment of childhood aggression*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Patterson-Kane, E. G., & Piper, H. (2009). Animal abuse as a sentinel for human violence: A critique. *Journal of Social Issues*, 65(3), 589-614.
- Pew Research Center. (2010, November 4). Profile of pet owners. Retrieved from <http://www.pewsocialtrends.org/2006/03/07/gauging-family-intimacy/63-2/>.

- Pinker, S. (2011). *The better angels of our nature: Why violence has declined*. New York: Penguin Books.
- Piper, H. (2003). The linkage of animal abuse with interpersonal violence: A sheep in wolf's clothing? *Journal of Social Work*, 3, 161–177.
- Ressler, R. K., Burgess, A. W., & Douglas, J. E. (1988). *Sexual homicide: Patterns and motives*. New York: The Free Press.
- Roose, A., Bijttebier, P., Decoene, S., Claes, L., & Frick, P. J. (2010). Assessing the affective features of psychopathy in adolescence: A further validation of the inventory of callous and unemotional traits. *Assessment*, 17(1), 44–57.
- Saunders, J., Parast, L., Babey, S. H., & Miles, J. V. (2017). Exploring the differences between pet and non-pet owners: Implications for human-animal interaction research and policy. *PLoS One*, 12(6), e0179494. Retrieved from: <https://doi.org/10.1371/journal.pone.0179494>
- Schapiro, R. (2015). Lafayette shooter John Houser told of animal killings days before theater massacre. *New York Daily News*. Retrieved from <http://nydn.us/1V11taY>
- Schildkraut, J., Elsass, H. J., & Meredith, K. (2017). Mass shootings and the media: Why all events are not created equal. *Journal of Crime and Justice*. Advance online publication. <https://doi.org/10.1080/0735648X.2017.1284689>
- Seierstad, A. (2015). *One of us: The story of Anders Breivik and the massacre in Norway*. New York: Farrar, Straus & Giroux.
- Shear, M.D., & Nir, S.M. (2015). A life of listing grievances, and then Virginia gunman's final homicidal explosion. *The New York Times*. Retrieved from <https://nyti.ms/1EnWabx>
- Silva, C. (2017). Texas church shooter Devin Kelley said he used dogs as 'target practice.' *Newsweek*. Retrieved from <http://www.newsweek.com/texas-church-shooter-who-killed-26-people-texas-use-dogs-target-practice-707591>
- Skogan, W. G. (1977). Dimensions of the dark figure of unreported crime. *Crime and Delinquency*, 23, 41–50.
- Stahl, J. (2013, August 15). This amazing map shows every person in America. Retrieved from http://www.slate.com/articles/news_and_politics/map_of_the_week/2013/08/segregation_in_america_every_neighborhood_in_the_u_s_mapped_along_racial.html.
- Stone, M. (2007). Violent crimes and their relationship to personality disorders. *Personality and Mental Health*, 1, 138–153.
- Times Wire Services. (1986). Neighbors called killer "Crazy Pat." *Los Angeles Times*. Retrieved from http://articles.latimes.com/1986-08-21/news/mn-17655_1_crazy-pat
- Torres, D. (1993). Home video made by perpetrator that was obtained by the researchers.
- Truman, J. L., & Langton, L. (2015). *Criminal victimization, 2014*. Washington, DC: Bureau of Justice Statistics.
- Verlinden, S., Hersen, M., & Thomas, J. (2000). Risk factors in school shootings. *Clinical Psychology Review*, 20, 3–56.
- Vermeulen, H., & Odendaal, J. S. (1993). Proposed typology of companion animal abuse. *Anthrozoös*, 6(4), 248–257.
- Vossekuil, B., Fein, R., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the safe school initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service and U.S. Department of Education.
- Wainwright, R., & Totaro, P. (2009). A dangerous mind: what turned Martin Bryant into a mass murderer? *Sydney Morning Herald*. Retrieved from <https://www.smh.com.au/national/a-dangerous-mind-what-turned-martin-bryant-into-a-mass-murderer-20090427-ajk4.html>
- Wright, J., & Hensley, C. (2003). From animal cruelty to serial murder: Applying the graduation hypothesis. *International Journal of Offender Therapy and Comparative Criminology*, 47, 71–88.

How to cite this article: Arluke A, Lankford A, Madfis E. Harming animals and massacring humans: Characteristics of public mass and active shooters who abused animals. *Behav Sci Law*. 2018;1–13. <https://doi.org/10.1002/bsl.2385>