



## Review

# The Link between Family Violence and Animal Cruelty: A Scoping Review

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**Abstract:** There is some evidence that family violence (intimate partner violence, child maltreatment, elder abuse) co-occurs with animal cruelty (i.e., threats to and/or actual harm of an animal), which is often referred to as “the link.” The aim of this scoping review was to comprehensively search the literature to determine the extent of empirical evidence that supports the co-occurrence of family violence and animal cruelty and that provides prevalence rates of the co-occurrence. We searched eight electronic databases (e.g., Academic Search Complete, PsycArticles, PubMed) for peer-reviewed articles published until September 2021. Articles were eligible for inclusion if they were written in English and included the empirical study of at least one form of family violence and animal cruelty. We identified 61 articles for inclusion. The majority of articles ( $n = 48$ ) focused on co-occurring IPV and animal cruelty, and 20 articles examined child maltreatment and animal cruelty. No articles examining elder abuse and animal cruelty were found. Prevalence rates of “the link” ranged from <1% to >80%. Findings regarding the association between family violence and animal cruelty varied. Some studies found that family violence was significantly associated with animal cruelty (or vice versa), but there was also evidence that the association was not statistically significant. Associations between family violence and animal cruelty were not significant in most studies that adjusted for sociodemographic factors. This suggests that sociodemographic factors (e.g., exposure to multiple forms of violence, and income) may explain the co-occurrence of family violence and animal cruelty. Based on the results of our scoping review, we recommend that caution should be taken regarding assertions of “the link” without further research to better understand the co-occurrence of family violence and animal cruelty and the factors and mechanisms that influence their co-occurrence.

**Keywords:** animal cruelty; family violence; domestic violence; intimate partner violence; child maltreatment; child abuse; elder abuse



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## 1. Introduction

Exposure to violence is a well-established public health issue with long-term physical and mental health consequences (Ehrlich et al. 2016; Haegerich and Dahlberg 2011; Holmes et al. 2022; McLaughlin et al. 2010; Petrucci et al. 2019). Violence has been defined as an act or threat of action that causes or is likely to cause, physical harm, psychological harm, maldevelopment, deprivation, or death (Timshel et al. 2017; Krug et al. 2002). Family violence is a specific form of violence that occurs within a household and includes “threatening or committing physical, verbal, emotional, financial, or sexual violence” (Timshel et al. 2017, p. 318). Intimate partner violence (IPV; violence, including stalking and psychological aggression, by a current or former intimate partner, such as a boyfriend/girlfriend, partner, or spouse; Breiding et al. 2015) and child maltreatment (i.e., abuse and/or neglect of a child less than 18 years old by a parent or caregiver; Leeb et al. 2008) are forms of family violence

that have received substantial research attention. In recent years, however, there has been growing recognition that elder abuse should also be considered a form of family violence (Chan et al. 2021). Similar to child maltreatment, elder abuse is the intentional harm or risk of harm to an older adult by a caregiver or other individual trusted to provide care and/or failure to provide for their basic needs or protect them from harm (Pillemer et al. 2016). Therefore, in the current paper, we consider family violence to include IPV, child maltreatment, and elder abuse.

When any individual in a household is a victim of family violence, other individuals are often considered to be at risk (Chan et al. 2021; Hoffer et al. 2018). A recent meta-analysis by Chan et al. (2021) examining the prevalence rates of co-occurring forms of family violence found that approximately 10% of community samples and 36% of clinical samples reported multiple forms of family violence. More specifically, if IPV was present, there was a 4-fold and 3-fold increased risk of co-occurring child maltreatment based on cross-sectional and longitudinal studies, respectively. For this reason, social service professionals and agencies are encouraged to cross-train, cross-report, and coordinate responses to alleged incidents of violence (Faver and Strand 2003; Monsalve et al. 2017).

Just as family violence may involve multiple household members (e.g., partner and child), it may also involve the maltreatment of non-human animals in the home. We use the term “animal cruelty” to encompass threats of harm and actual harm to a non-human animal, such as physical abuse and neglect that inflicts pain, causes suffering, or may result in injury and/or death of the animal. Recognition of animal cruelty as a form of family violence is important because animals have the capacity to suffer and because other household members suffer from witnessing cruelty to animals (Ascione et al. 2007; Collins et al. 2018; McDonald et al. 2019; Randour et al. 2021). Further, in the context of family violence, threats and/or harm to animals may be used to manipulate, harass, or retaliate against members of the family (Collins et al. 2018; Jorgensen and Maloney 1999; Levitt et al. 2016; McDonald et al. 2019).

### 1.1. The Link

The connection between violence towards people and animals is referred to by some as “the link” (Unti 2008). “The link” has significance for humane education and lobbying efforts, which often struggle to find traction when dealing with animal cruelty issues independent from human-related violence, such as violence towards women and children. Additionally, claims made about the nature of “the link” have important ethical and legal implications across diverse aspects of investigation, protection, and prosecution. Unfounded beliefs in “the link” may cause harm when they lead to outcomes such as unnecessary family separation, overly punitive sentences, or the stigmatization of at-risk children (e.g., Fong 2020; Robin 1991; Turney 2014). For this reason, it is important to keep claims about “the link” tied as closely as possible to their evidentiary base and to exercise care when applying population-level findings to individual cases.

### 1.2. Current Study

Although it has long been recognized that the empirical base for “link” claims is limited and nuanced (Felthous and Kellert 1987; Fitzgerald et al. 2021; Riggs et al. 2021), the extent to which there is empirical support for “the link” is uncertain. There have been reviews of the intersection between animal cruelty and family violence; however, most reviews focus solely on one form of family violence such as IPV (e.g., Faver and Strand 2003; Taylor et al. 2019) or child maltreatment (e.g., Lee-Kelland and Finlay 2018) or provide an overview of available studies without a systematic search and review of available literature (e.g., Arkow 2021; Petersen and Farrington 2007; Randour et al. 2021). Therefore, the aim of this study was to explore the extent of empirical research that simultaneously examines family violence (i.e., IPV, child maltreatment, elder abuse) and animal cruelty. The review was guided by the following questions: (a) What is the prevalence of concomitant family

violence and animal cruelty? and (b) What empirical literature is available to support the co-occurrence of family violence and animal cruelty?

## 2. Materials and Methods

Given the purpose of this review and the research questions we sought to answer, we utilized scoping review procedures (Arksey and O'Malley 2005) to examine the co-occurrence of family violence (e.g., IPV, child maltreatment, elder abuse) and animal cruelty. Scoping review procedures were selected due to the broad scope of our questions and goal of identifying the available evidence and knowledge gaps (Munn et al. 2018). Although different in scope, scoping review procedures are similar to systematic reviews in that they include a systematic and transparent search of the literature and structured data extraction and charting procedures (Munn et al. 2018; Peters et al. 2020).

For the purpose of our scoping review, we defined family violence broadly to include forms of violence that occur within the home environment and/or between family members. We specifically examined intimate partner violence, child maltreatment (i.e., abuse and neglect), and elder abuse. We built off of the definition of animal cruelty put forth by Ascione (1993, p. 228) to include, “socially unacceptable behavior that intentionally causes unnecessary pain, suffering, or distress to and/or the death of an animal.” We included actual animal maltreatment (i.e., abuse and neglect), as well as threats of animal maltreatment.

### 2.1. Data Sources and Search Parameters

We conducted a literature search in April 2021 and September 2021 of the following electronic databases: Academic Search Complete, Child Development & Adolescent Studies, Psychology and Behavioral Sciences Collection, Social Sciences Abstracts, Violence & Abuse Abstracts, APA PsycArticles, Family & Society Studies Worldwide, and PubMed. The search terms we used can be found in Table 1. We did not include any additional parameters (e.g., published in English, peer-reviewed articles, publication date) to locate the broadest array of potential literature. Therefore, our results include all available literature published through our last search date in September 2021.

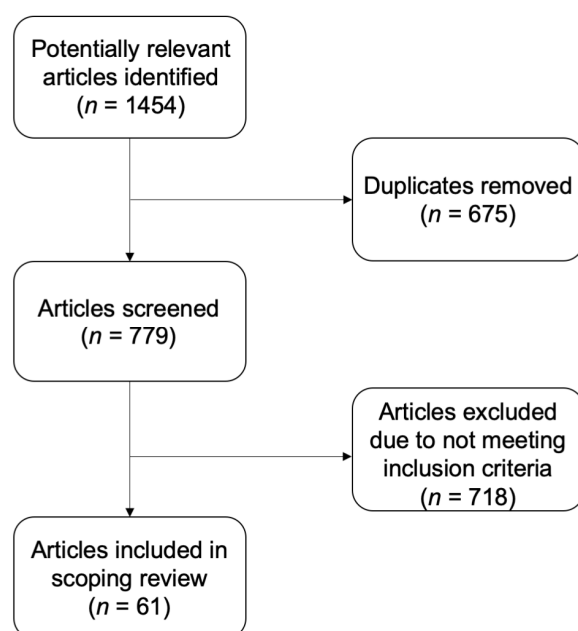
**Table 1.** Search terms used in combination to locate articles.

Category	Search Terms
Intimate partner violence	“intimate partner violence,” “domestic violence,” “interpartner violence,” “spouse abuse,” “partner abuse,” “family conflict”
Child maltreatment	“child abuse,” “child maltreatment,” “child welfare,” “child neglect,” “physical abuse,” “spanking,” “sexual abuse,” “emotional abuse”
Elder abuse	“elder abuse,” “elder maltreatment,” “elder neglect,” “adult protective services”
Animal cruelty	“animal cruelty,” “animal abuse,” “animal maltreatment,” “pet abuse,” “cruelty to pets,” “pet maltreatment,” “harm to pets,” “abused pets,” “animal neglect”
Example search strategy: (“animal cruelty” OR “animal abuse” OR “animal maltreatment” OR “pet abuse” OR “cruelty to pets” OR “pet maltreatment” OR “abused pets” OR “harm to pets” OR “animal neglect”) AND (“child abuse” OR “child maltreatment” OR “child welfare involvement” OR “child neglect” OR “physical abuse” OR “spanking” OR “sexual abuse” OR “emotional abuse”)	

### 2.2. Screening and Data Charting

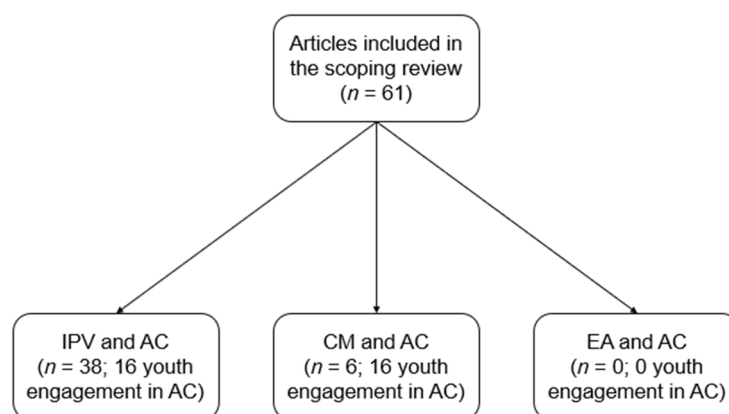
Our screening and data-charting procedures are reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR; Tricco et al. 2018; see Figure 1 and Table S1). All articles were combined into a shared Google Sheet for data screening and charting. Duplicate articles were excluded. Four undergraduate research assistants and four doctoral research assistants screened the

remaining articles independently for relevance. The screening process was supervised by one of the doctoral research assistants. The doctoral research assistants reviewed and discussed any uncertainty regarding inclusion of articles until a consensus was reached. A few articles were further discussed by the first and last author regarding inclusion until a consensus was reached. Articles were retained for further examination if they met the following criteria: (a) Included the empirical study of at least one form of family violence and animal cruelty, (b) family violence and animal cruelty were both perpetrated by an adult (although studies that examined the co-occurrence of family violence and youth engagement in animal cruelty were categorized for further examination), and (c) full-text availability in English. In contrast, articles were excluded if the authors examined only one form of violence (i.e., family violence or animal cruelty) and/or only discussed the link between family violence and animal cruelty. Reviews (i.e., articles and book chapters) were included if they met the inclusion criteria. Our final sample included 61 articles relevant to the aims of this scoping review.



**Figure 1.** PRISMA diagram reflecting the selection of articles included in the current study.

After articles were deemed relevant to the current scoping review, they were categorized based on the form of family violence co-occurring with animal cruelty (see Figure 2). Specifically, we grouped articles into the following categories: (a) IPV and animal cruelty, (b) child maltreatment and animal cruelty, and (c) elder abuse and animal cruelty. Articles that examined multiple forms of family violence were included in each of the respective categories. For example, an article that examined IPV, child maltreatment, and animal cruelty was included in the IPV and animal cruelty category *and* the child maltreatment and animal cruelty category. Articles that examined the co-occurrence of family violence and *child* engagement in animal cruelty and reports by service providers on the co-occurrence of family violence and animal cruelty were also included in each respective category. Each article was then reviewed fully, and the following information was charted: Author(s), year of publication, type of study (i.e., qualitative, quantitative, mixed methods, case study/review), independent and dependent variables and how they were assessed (e.g., measures used), sample information (e.g., sample size, age range, race/ethnicity, sex/gender), methodology information (e.g., cross-sectional or longitudinal, analytic method, reporter), and primary results.



**Figure 2.** Articles within each category investigated. The categories were not mutually exclusive, so some articles are included in more than one category. Note: IPV = intimate partner violence; AC = animal cruelty; CM = child maltreatment; EA = elder abuse.

### 2.3. Synthesis of Results

Once data were charted, the lead author grouped the studies by the type of family violence included (i.e., IPV, child maltreatment, elder abuse; see Table 2) and summarized prevalence statistics and findings regarding the relationship between family violence and animal cruelty for each group. Within each of these groups, findings related to youth engagement in animal cruelty were separated from results related to animal cruelty by adults in subsections. Additionally, we provide a general description of the studies included in this scoping review (e.g., methodology, demographic information). The results are presented in Tables 2–6 and in narrative format below. Due to our use of scoping review procedures, an evaluation of the rigor or risk of bias in the individual sources is not provided (Tricco et al. 2018).

**Table 2.** Overview of Studies Included in the Scoping Review.

Description	Prevalence of IPV and AC	Prevalence of IPV and Youth Engagement in AC	Prevalence of CM and AC	Prevalence of CM and Youth Engagement in AC
Paper Number	1–38	1, 3, 17, 24, 37–48	8, 20, 49–52	8, 39, 41, 44, 48, 50, 54, 55, 59, 61
Papers That Used the Same Dataset (indicated by <sup>2</sup> )	4, 5		Note: Although statistics (e.g., demographic information, prevalence rates) may differ across studies, these differences should be interpreted with caution as they are mainly due to sample differences.	
Papers That Used the Same Dataset (indicated by <sup>3</sup> )	7, 22, 23, 27–32	47		
Description	Relationship between IPV and AC	Relationship between IPV and Youth Engagement in AC	Relationship between CM and AC	Relationship between CM and Youth Engagement in AC
Paper Number	3, 5–8, 11, 12, 14, 15, 18, 21–23, 25, 27, 31–33, 35, 37, 38	40, 41, 44, 46, 48	8, 49	8, 41, 42, 44, 48, 50, 53–60
Papers That Used the Same Dataset (indicated by <sup>2</sup> )	5		Note: Although statistics (e.g., demographic information, prevalence rates) may differ across studies, these differences should be interpreted with caution as they are mainly due to sample differences.	
Papers That Used the Same Dataset (indicated by <sup>3</sup> )	7, 22, 23, 27, 31, 32			

**Table 3.** Studies Included in the Scoping Review That Examined Intimate Partner Violence and Animal Cruelty.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
1	Ascione (1997)	Female domestic violence (DV) victims seeking services at a DV shelter ( $N = 38$ ; 20–51 years, $M = 30.2$ years) in the United States (U.S.).	Cross-sectional, quantitative; first-hand account by IPV survivors	<b>Prevalence:</b> 71% of women with pets reported their partner had threatened to hurt/kill and/or had actually hurt/killed a pet.
2	Ascione et al. (1997)	48 domestic violence shelters across the U.S.	Cross-sectional, quantitative; service provider report	<b>Prevalence:</b> The majority of shelters (85.4%) endorsed that women who seek services at their shelter discuss incidents of AC and 63% of shelters endorsed that children at the shelter discuss incidents of AC; 83.3% of shelters endorsed having observed the co-occurrence of DV and AC, and estimates provided of this co-occurrence by shelter staff ranged from <1% to 85% ( $M = 44\%$ ).
3	Ascione et al. (2007)	DV victims in Utah (U.S.) who received DV shelter services ( $N = 101$ women, 17–51 years, $M = 31.7$ years; 39 children, $M = 9.8$ years, 43.6% girls) and a community sample of women ( $N = 120$ women, 19–57 years, $M = 32.5$ years; 58 children, $M = 10.9$ years, 44.8% girls). Race/ethnicity of the Shelter group included 68.3% Caucasian, 12.9% Hispanic/Latina, 6.9% Native American, 7.9% African American, 4.0% Other; the community sample included 95.7% Caucasian, 0.1% Asian, 3.4% Native American.	Cross-sectional, quantitative; first-hand account by IPV survivors	<b>Prevalence:</b> Approximately half of DV victims (52.5%) reported threats to hurt/kill pets and 54% reported actual hurting/killing of pets by their partner. In contrast, only 12.5% of the community sample reported threats to hurt/kill pets and 5% reported actual hurting/killing of pets by their partner; 11.1% and 2.5% of DV victims and community members reported committing AC, respectively. <b>Other Results:</b> Significant predictors of partners threatening to hurt/kill pets included minor physical violence by partner, verbal aggression by partner, and the woman's reported level of education. In contrast, the significant predictors of partners actually hurting/killing the pet included membership in the shelter group (vs. non-shelter group) and severe physical violence by partner. Dichotomizing women's exposure to violence into "no violence" and "any violence" suggested that women exposed to any minor and/or severe physical violence by their partner were more likely to report their partner had threatened their pet and/or hurt their pet in comparison to those not exposed to violence in both the shelter group (threatened: 55.9% vs. 16.7%; hurt: 56.5% vs. 16.7%) and non-shelter group (threatened: 33.3% vs. 7.4%; hurt: 8.7% vs. 3.2%).
4	Barrett et al. (2018) <sup>2</sup>	Female residents ( $N = 86$ ) of 16 battered women's shelters in Canada ( $M = 37.9$ years, $SD = 10.89$ years; 85.9% heterosexual, 3.5% bisexual, 1.2% lesbian, 3.5% asexual, 5.9% other sexual orientation; 62.8% White, 4.7% Black, 18.6% First Nations or Metis, 7% Arab, 1.2% South Asian, 2.3% Latin American, 3.5% mixed racial/ethnic heritage)	Cross-sectional, quantitative; first-hand account by IPV survivors	<b>Prevalence:</b> 89% of women reported that their partner had threatened to harm and/or had actually harmed their pet. Specifically, 64.2% reported emotional abuse of animal, 71.2% reported their partner had threatened to harm pet, 48.1% reported physical neglect of pet, 69.8% reported physical abuse, and 25% reported severe physical abuse of the animal.



Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
5	<a href="#">Barrett et al. (2020)</a> <sup>2</sup>	Participants were women receiving services from domestic violence shelters in Canada ( $N = 86$ ) who did not have companion animals ( $N = 31$ , $M = 33.29$ years, $SD = 9.16$ years), who had companion animals with no/low levels of animal abuse ( $N = 21$ , $M = 41.48$ years, $SD = 11.79$ years), and who had companion animals with severe/high levels of animal abuse ( $N = 34$ , $M = 39.94$ years, $SD = 10.61$ years). The majority of women in each group were heterosexual (92.86%, 85%, 93.75%, respectively) and were predominantly White (41.94%, 80.95%, 70.59%, respectively).	Cross-sectional, quantitative; first-hand account by IPV service recipients	<p><b>Prevalence:</b> ~89% of women who had pets reported animal cruelty by their partner. The most serious forms of pet abuse included injury to the pet (20%), killing of the pet (14.5%), drowning of the pet (9.1%).</p> <p><b>Other Results:</b> Animal cruelty scores were positively correlated with all subscales of the Conflict Tactics Scale 2: Severe psychological abuse, minor physical abuse, severe physical abuse, and severe sexual abuse, and the subscales of the Checklist of Controlling Behaviors: Physical abuse, sexual abuse, and economic abuse. There were also significant differences in IPV scores between women without pets (G1), women with pets who suffered no/low levels of animal abuse (G2), and women with pets who suffered severe animal abuse (G3). Specifically, G1 and G3 reported higher levels of severe psychological abuse in comparison to G2. G3 experienced significantly higher levels of minor physical abuse and severe physical abuse in comparison to G2. There were no other significant differences. With regard to controlling behaviors, G3 reported significantly higher scores on physical abuse and sexual abuse in comparison to G2; G1 reported higher scores on sexual abuse compared to G2; G3 reported more economic abuse compared to G1.</p>

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
6	Campbell et al. (2021)	Secondary data of domestic violence incident reports ( $N = 3416$ reports, 3476 victims, 3477 suspects) collected by first responders in Marion County, Indiana (U.S.) between 9 November 2014 and 12 February 2015. Among those with a history of animal abuse, suspects ranged in age from 15 to >55 years and were White (49%), African American (49%), and Hispanic (2%), and were predominantly male (96%). Victims were predominantly female (95%), ranging in age from 15 to >55 years. The majority of victims were White (68%), followed by African American (27%) and Hispanic (4%).	Cross-sectional, quantitative; first-hand accounts by IPV survivors following a domestic violence incident	<p><b>Prevalence:</b> 3% of domestic violence victims also endorsed that the perpetrator had a history of animal cruelty.</p> <p><b>Other Results:</b> Domestic violence suspects with a history of animal cruelty were significantly more likely to have previously victimized the IPV victim previously, although unreported, compared to those without a history of animal cruelty (80% vs. 60%), and were more likely to have had multiple unreported IPV incidents. Additionally, IPV suspects with a history of animal cruelty more frequently: Followed or spied on the IPV victim (70% vs. 33%), controlled the victim's activities (84% vs. 55%), forced the victim to have sex (26% vs. 8%), strangled the victim (76% vs. 47%), threatened to kill the victim (63% vs. 31%), and threatened to kill the victim and/or their children (70% vs. 33%) in comparison to those without a history of animal cruelty. Law enforcement officers reported differences in victims' demeanors based on whether the IPV suspect had a history of animal cruelty or not. For example, when the DV suspect had a history of animal cruelty, officers reported more victims appeared afraid (63% vs. 42%), apologetic (15% vs. 5%), nervous (48% vs. 33%), had visible bruising (35% vs. 20%), complained of pain (63% vs. 52%), and were removed to a temporary safety location such as a DV shelter or medical facility (44% vs. 24%).</p>
7	Collins et al. (2018) <sup>3</sup>	Participants were women in the U.S. who were IPV survivors, recruited from community-based domestic violence programs ( $N = 103$ , age range: 21–56 years, $M = 36.62$ years, $SD = 7.54$ years). The racial/ethnic composition of the sample included 52.4% White, 33% Hispanic/Latina, 1.9% American Indian or Alaskan Native, 1.9% African American or Black, 1% Asian, and 8.7% bi/multi-racial women.	Cross-sectional, qualitative; first-hand accounts of IPV survivors	<p><b>Prevalence:</b> 75% of women reported their partner had threatened their companion animal, 66% reported their partner had harmed their companion animal, and 11% reported the animal was killed.</p> <p><b>Other Results:</b> 4 themes were identified through template analysis regarding how women and their children experience animal cruelty within the household with co-occurring IPV: (1) Animal maltreatment used as a tactic of coercion and control by the partner (20.4%), (2) animal maltreatment used to discipline or punish the animal (39.8%), (3) youth engagement in animal maltreatment within the home (23%), and (4) exposure to animal maltreatment had an emotional and psychological impact. An additional theme was identified related to companion animals and animal cruelty influencing the decision to stay with/leave the abusive partner. Pets were a barrier to safety planning (38%).</p>



Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
8	DeGue and DiLillo (2009)	A sample of college students from 3 universities in California, Nebraska, and Ohio (U.S.) were recruited ( $N = 860$ ). The average age was 20.1 years ( $SD = 1.72$ ). The majority of students were female (75.6%) and White (70.1%), although the sample also included 11.2% Asian, 7.1% Hispanic/Latino, and 4.2% Black students.	Cross-sectional, quantitative; retrospective reports of exposure to IPV, child abuse, and AC in childhood	<b>Prevalence:</b> Although 22.9% of the sample reported being exposed to animal cruelty, only 5% reported experiencing both domestic violence and animal cruelty as a child (0.9% domestic violence and animal abuse only; 4.1% DV, animal cruelty, and child maltreatment); 36.2% of the sample reported no exposure to family violence (i.e., IPV, child abuse) or animal cruelty. <b>Other Results:</b> Witnessing and/or engaging in animal cruelty during childhood significantly predicted the odds of family violence exposure ( $OR = 1.48$ – $2.11$ ); however, exposure to domestic violence was not a significant predictor of either witnessing or engaging in animal cruelty when also accounting for child maltreatment.
9	Faver and Cavazos (2007)	A sample of IPV survivors were recruited from community-based domestic violence programs in Texas (U.S.) who also reported living with a pet ( $N = 151$ ). All participants were women, ranging in age from 17–59 years ( $M = 31$ years, $SD = 9.22$ years). The sample was primarily Hispanic (74%), with 14% non-Hispanic White participants, 1% belonging to another racial/ethnic group, and 11% with an unknown race/ethnicity.	Cross-sectional, quantitative; first-hand accounts of IPV survivors	<b>Prevalence:</b> 98% of women reported having a pet while in an abusive relationship. Of those, 36% reported their partner had threatened, harmed, and/or killed their pet. There was a non-significant difference in the prevalence of animal cruelty in the sample based on race/ethnicity: 52.4% of non-Hispanic White women vs. 32.4% of Hispanic women.
10	Faver and Strand (2003)	A sample of 61 women were recruited from IPV shelters in a southeastern U.S. state, although only 41 participants provided complete data and were included in the analysis. Women from the 2 rural shelters ranged in age from 21–54 years ( $M = 36.6$ years, $SD = 10.2$ years) and included 40% of women from minoritized racial/ethnic groups. Women from the 4 urban shelters were on average 35.8 years old (range: 19–72 years, $SD = 13.1$ years) and were predominantly White (12.5% minoritized racial/ethnic identities).	Cross-sectional, quantitative; first-hand accounts of IPV survivors	<b>Prevalence:</b> Of the women who provided data regarding animal cruelty, 48.8% endorsed that their partner had threatened their pet and 46.3% reported that their partner had harmed their pet.

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
11	Febres et al. (2012)	Participants included 87 women from a Rhode Island (U.S.) court-referred Batterer Intervention Program ( $M = 30.5$ years, $SD = 10.27$ years). The majority of participants were non-Hispanic Caucasian (74.7%), followed by African American (6.9%), Hispanic (8.0%), American Indian/Alaskan Native (2.3%), Asian/Pacific Islander (1.1%), and Other (5.7%).	Cross-sectional, quantitative; first-hand account of IPV perpetrators	<p><b>Prevalence:</b> Since turning 18 years of age, 15% of women reported engaging in animal cruelty, with an average of 8.8 acts of animal cruelty (<math>SD = 14.3</math>). There were no statistically significant differences in the frequency of IPV between women who endorsed committing acts of animal cruelty and those who did not endorse animal cruelty.</p> <p><b>Other Results:</b> Animal abuse scores were significantly and positively associated with severe physical assault in this sample; however, they were not significantly correlated with overall (i.e., minor and severe) psychological aggression, overall physical assault, or severe psychological aggression. There were also no statistically significant differences in frequency of IPV based on whether the participant had also engaged in animal abuse or not.</p>
12	Febres et al. (2014)	Participants included 307 men arrested for domestic violence and court-referred to Rhode Island (U.S.) Batterer Intervention Programs ( $M = 33.1$ years, $SD = 10.2$ years). Participants identified as non-Hispanic Caucasian (72.3%), African American (12.1%), Hispanic (8.1%), American Indian/Alaskan Native (2.0%), Asian or Pacific Islander (1.3%), and other racial/ethnic identities (3.9%).	Cross-sectional, quantitative; first-hand account of IPV perpetrators	<p><b>Prevalence:</b> 41% of males reported engaging in animal cruelty at least once since turning 18 years of age, with an average of 9.52 acts of animal cruelty.</p> <p><b>Other Results:</b> Animal abuse scores were weakly (<math>r_s &lt; 0.2</math>) and positively associated with self-reported use of psychological aggression, severe psychological aggression, physical assault, severe physical assault, and antisocial personality disorder (ASPD) and alcohol use (AUDIT) scores. In a regression model, after controlling for the effects of ASPD and alcohol use, engagement in animal cruelty was no longer significantly associated with severe psychological aggression or severe physical assault.</p>
13	Fielding and Plumridge (2010)	The sample included college students in New Providence in the Bahamas ( $N = 641$ ). The majority of student participants were <21 years of age (63.2%) and were female (69.6%). No information regarding race/ethnicity was provided.	Cross-sectional, quantitative; first-hand account of IPV and AC by a general college sample	<p><b>Prevalence:</b> 47.3% of participants reported having pets in the home. Of those, 21.3% reported the pet had been harmed on purpose and 20.9% reported IPV. In homes where a pet had been harmed on purpose, 55.6% of women reported that the same person who harmed the animal also was responsible for IPV.</p>

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
14	Fitzgerald et al. (2019)	Women recruited from Canadian DV shelters ( $N = 55$ ) participated in this study. Their age ranged from 21–66 years ( $M = 40.5$ years, $SD = 10.99$ years). The majority of women (85.5%) were heterosexual, 5.5% were bisexual, 3.6% were asexual, and 5.5% endorsed a different sexual orientation and/or did not respond. Women were predominantly White (74.5%), followed by: 9.1% First Nations, 5.5% Metis, 1.8% South Asian, 5.5% Arab, 1.8% Latin American, and 1.8% mixed racial/ethnic heritage.	Cross-sectional, quantitative; first-hand account by IPV survivors	<p><b>Prevalence:</b> The majority of women in this sample (89.1%) reported their partner had also abused their pets. Severe forms of abuse included injury to pet (20%), killing pet (14.5%), drowning pet (9.1%).</p> <p><b>Other Results:</b> This study examined predictors of different forms of animal cruelty (i.e., emotional animal abuse, threats to harm pets, physical animal neglect, physical animal abuse, and severe physical animal abuse) controlling for age, race, and various types of IPV (e.g., psychological aggression, physical assault, sexual coercion). To varying degrees across each analysis, predictors of animal cruelty included (a) maltreatment to upset the participant and/or their children, (b) maltreatment to regain control over a situation, (c) maltreatment to exert power over the participant, and (d) maltreatment had been planned in advance.</p>
15	Fitzgerald et al. (2022)	This study used data from the 2014 Canadian General Social Survey ( $N = 17,950$ ), which is a nationally representative survey of Canadian citizens. The survey samples individuals over the age of 15 ( $M = 49.70$ years). Participants included approximately equal numbers of males ( $n = 8960$ ) and females ( $n = 8990$ ). The majority of the sample were White ( $n = 14,920$ ).	Cross-sectional, quantitative; first-hand account by a general sample	<p><b>Prevalence:</b> Animal cruelty co-occurred with emotional abuse (86.67%), being called names or put down by partner (85%), having contact with close others limited by their partner (45%), and financial abuse (47.62%).</p> <p><b>Other Results:</b> There were significant differences between those who reported violence against animal companions (VAAC) and those who did not report VAAC for all forms of emotional and financial IPV assessed. Those who had experienced emotional abuse were more likely to have also experienced VAAC (86.67%) in comparison to those who had not experienced emotional abuse (13.42%).</p> <p>In comparison to those who had not experienced VAAC, partners of those who had experienced VAAC were more likely to have had their contact with friends/family limited (52.38% vs. 4.12%), been called names and/or verbally put them down (85% vs. 7.06%), had close friends/family threatened and/or harmed (45% vs. 0.96%), had their possessions damaged (60% vs. 1.98%), and have experienced financial abuse (47.62% vs. 2.49%). In a logistic regression analysis controlling for gender, age, household income, disability status, racial identity, and geographic location (i.e., rural / urban), VAAC significantly increased odds of emotional abuse by 38.6% and financial abuse by 7.5%.</p>

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
16	Flynn (2000a)	10 IPV survivors were sampled from a domestic violence shelter in the U.S. Women ranged in age from 22–47 years. The majority of women were White ( $n = 8$ ), one was African American, and one was Hispanic.	Cross-sectional, qualitative; first-hand accounts by IPV survivors	<b>Prevalence:</b> The qualitative study explored women's experiences of animal cruelty within the context of IPV. Women described their companion animals as members of their family that influenced their decision to stay/leave the relationship. Women also reported on their experiences of animal cruelty. Eight of the ten women described their pets were threatened and/or abused by their partner. Animal cruelty was used as a tactic of power and control by their partner. Participants also discussed how their children had witnessed animal cruelty ( $n = 4$ of 7 women with children).
17	Flynn (2000b)	The sample included 107 women who had received services at a South Carolina (U.S.) DV shelter. Women's ages ranged from 17–61 years ( $M = 32.4$ years), and race/ethnicity included 59.8% White, 36.5% Black, 2.8% Hispanic, and 1.9% Asian.	Cross-sectional, quantitative; first-hand accounts by IPV survivors	<b>Prevalence:</b> Among women with pets, 46.5% reported that their partner had threatened to harm and/or actually harmed their pets.
18	Gallagher et al. (2008)	The sample included women who were currently receiving or who had previously received DV shelter services at a refuge in the Republic of Ireland ( $N = 23$ ). No other demographic information was included for this sample.	Cross-sectional, quantitative; first-hand accounts by IPV survivors	<b>Prevalence:</b> Approximately half of the sample (56%) reported that their partner had threatened and/or actually harmed their companion animals through physical abuse and/or neglect; 50% of women also reported that their child had witnessed the animal cruelty. <b>Other Results:</b> Of the 13 women who had experienced animal maltreatment, 12 (92.3%) reported that they believed their pet was maltreated by their partner as a method of controlling them or their children. Other reasons included revenge or anger.
19	Giesbrecht (2022)	This study included a sample of Canadian human service professionals (e.g., domestic violence shelter/services, police agencies; $n = 128$ ) and animal welfare professionals (e.g., veterinary clinics, animal rescues; $n = 43$ ). No specific information was provided regarding participants' age, sex/gender, or race/ethnicity.	Cross-sectional; mixed methods; report by service providers	<b>Prevalence:</b> 65% of human service professionals (i.e., 75% of victim service workers, 69% of domestic violence shelter and service workers, 56% of legal professionals (e.g., attorneys), and 33% of police officers) reported working with survivors of IPV whose animals (i.e., pets, service animals, livestock) had been abused and/or neglected. Approximately half of animal welfare professionals (56%) also reported responding to incidents in which both animal cruelty (i.e., abuse, neglect) and abuse of humans was co-occurring within the home.

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
20	<a href="#">Green and Gullone (2005)</a>	185 Australian veterinarians participated in this study; 58.8% were male, 41.2% were female. The veterinarians' ages were reported in ordered ranges: 20–29 years ( $n = 24$ , 13.0%), 30–39 years ( $n = 54$ , 29.3%), 40–49 years ( $n = 59$ , 32.1%), 50–64 years ( $n = 44$ , 23.9%), and 65+ years ( $n = 3$ , 1.6%). No information was provided regarding their race/ethnicity.	Cross-sectional; quantitative; report by service providers	<b>Prevalence:</b> On average, the veterinarians reported animal abuse cases at a rate of 0.12 per 100 animals seen in the clinic. They estimated that 20% of animal abuse had suspected (17.8%) or known (5.9%) co-occurring human abuse, and 53.8% of those cases involved spousal abuse and 25.6% involved abuse of both the spouse and child(ren) in the home.
21	<a href="#">Haden et al. (2018)</a>	This study included a sample of 42 male participants who were incarcerated in a U.S. Department of Corrections prison and had a history of IPV. The participants' ages ranged from 21–55 years ( $M = 37.4$ years, $SD = 8.27$ years), and the majority were White (76.2%), with fewer reporting racial/ethnic identities such as Black/African American (9.5%), Hispanic/Latino (9.5%), or other racial/ethnic group (4.8%).	Cross-sectional; quantitative; report by IPV perpetrators	<b>Prevalence:</b> Within this sample of incarcerated male participants with a history of IPV, 16 (38.1%) had threatened to hurt their partners' pet during their relationship and 22 (52.4%) had actually hurt and/or killed their partners' pet. <b>Other Results:</b> 15 (35.7%) of participants also reported animal cruelty as a child. This group of participants (in comparison to those who had not engaged in animal cruelty in childhood) reported higher psychological aggression scores (21.53 vs. 18.18) and sexual coercion scores (5.73 vs. 2.59). There were no significant differences for negotiation, physical aggression, severe sexual coercion, injury, or severe injury scores. Additionally, those who had engaged in animal cruelty as a child were more likely to have threatened animal abuse in a relationship ( $n = 16$ vs. 0) and to have actually abused animals in a relationship ( $n = 21$ vs. 1) in comparison to those who did not abuse animals in childhood.

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
22	Hartman et al. (2018) <sup>3</sup>	<p>291 women (ages 21–65 years, <math>M = 36.6</math> years, <math>SD = 7.43</math> years) in the U.S. who had experienced IPV in the past year, had at least one child between the ages of 7 and 12 years living in her home, and had at least one pet in their home in the past year were recruited from domestic violence agencies.</p> <p>One child between the ages of 7 and 12 years (<math>M = 9.07</math> years, <math>SD = 1.6</math> years; 47.4% girls) were also selected to participate in the study. The race/ethnicity of the mothers included White (26.9%), Hispanic (60.7%), Black (3.4%), Pacific Islander (0.3%), Asian (0.3%), American Indian/Alaskan (1.7%), and mixed race (6.6%), and their children were: White (22.0%), Hispanic (55.3%), Black (3.4%), Asian (0.3%), American Indian/Alaskan (1.0%), and mixed race (17.9%).</p>	Cross-sectional; quantitative; first-hand account by IPV survivors and their children	<p><b>Prevalence:</b> Of the 291 women included in this study, 11.7% reported that their partners had threatened to harm a family pet, while 26.1% reported their partners had actually harmed and/or killed the pet. Similarly, 26.2% of the children in the study reported that their mom's partner had harmed and/or killed a pet.</p> <p><b>Other Results:</b> Adjusting for income, partner's level of education, and other forms of IPV, higher psychological aggression scores were associated with higher odds of threats to harm pet (<math>OR = 1.07</math>). In an analysis examining the relationship between IPV and actual harm to pets, psychological aggression scores (<math>OR = 1.02</math>) and partners with more education (<math>OR = 1.22</math>) were associated with greater odds of actual harm to pets controlling for other forms of IPV and income; whereas physical aggression was associated with lower odds of harm to pets (<math>OR = 0.89</math>). However, when adding in the partner's Hispanicity, no significant association was found between IPV and threats of harm to pets; in examining actual harm to pets, physical aggression (<math>OR = 0.90</math>) and Hispanic Mexican-born partners (<math>OR = 0.26</math>) were associated with lower odds and psychological aggression (<math>OR = 1.07</math>) was associated with higher odds of actual harm.</p>
23	Hawkins et al. (2019) <sup>3</sup>	<p>This study included a sample of 204 mother-child dyads who were recruited from 22 domestic violence agencies in the western United States between 2010 and 2016. Eligibility criteria included maternal age of 21 years or older, experienced IPV in the past year, had at least one child between the ages of 7 and 12 years in their home, and had either a dog and/or cat in their home within the past year.</p> <p>This study focused on the youth included in the overarching study. Youth ranged in age from 7–12 years (<math>M = 9.11</math> years, <math>SD = 1.63</math> years); 52.9% of the sample was male. Youth's race/ethnicity included Latinx/Hispanic (57.4%), White/non-Hispanic (22.5%), multi-racial (16.2%), Black/African American (2.9%), Asian (0.5%), and American Indian/Alaska Native (0.5%).</p>	Cross-sectional; quantitative; maternal report of youth's exposure to AC	<p><b>Prevalence:</b> Among the sample of IPV survivors and their children, 26% of mothers reported that their child had been exposed to animal cruelty by their partner, including threats to harm the pet and actually harming and/or killing the pet.</p> <p><b>Other Results:</b> Exposure to IPV was not significantly associated with exposure to animal cruelty (<math>r = -0.04</math>).</p>



Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
24	<a href="#">Krienert et al. (2012)</a>	This study recruited domestic violence service organizations using a directory of U.S. DV programs; 767 domestic violence shelters responded to the survey. On average, the participating shelters served 480 clients in the 6 months prior to participating in the study. Almost 40% of shelters were located in the Midwest. No further sample information was provided.	Cross-sectional; mixed methods; report by service providers	<b>Prevalence:</b> 95.5% of shelters reported having observed DV cases in which animal abuse was present. Across all DV cases seen by the shelter, they estimated that 36.0% of DV cases had co-occurring animal abuse present. Additionally, 93.7% of shelters reported that women seeking services within their organization talked about animal abuse.
25	<a href="#">Levitt et al. (2016)</a>	150 criminal records were reviewed of adult males arrested for animal cruelty, animal neglect, and/or animal sexual abuse between 2004 and 2009 in the U.S. Ages of offenders ranged from 18–69 years ( $M = 37.4$ years, $SD = 13.2$ years), and the majority were Caucasian ( $n = 102$ , 68%), followed by African American ( $n = 25$ , 17%), Hispanic ( $n = 12$ , 8%), Asian ( $n = 5$ , 3%), and Native American ( $n = 3$ , 2%).	Cross-sectional; quantitative; case review	<b>Prevalence:</b> Among the male offenders arrested for animal cruelty, approximately 20% ( $n = 30$ ) were also arrested for physically assaulting their spouse/intimate partner. <b>Other Results:</b> The study also examined motives for animal abuse. At least 8% ( $n = 12$ ) reported abusing an animal in order to retaliate against another person, and of those 58% ( $n = 7$ ) had been previously arrested for DV and 32% ( $n = 9$ ) of those who abused a pet belonging to an intimate partner reported doing so to retaliate against their partner. Chi-square results suggest that there was also a significant relationship between participants who had been arrested due to DV assaulted their spouse/intimate partner and participants who had committed animal cruelty.
26	<a href="#">Loring and Bolden-Hines (2004)</a>	The sample included 107 female IPV survivors who were recruited from a family violence center. Women's ages ranged from 16–73 years ( $M = 31$ years). The majority of women were Caucasian (63%), followed by African American (22%), Hispanic (11%), Asian (2.5%), and Native-American (1.5%).	Cross-sectional; quantitative; first-hand account by IPV survivors	<b>Prevalence:</b> In this sample, 62% reported having a pet in the home in the past year and/or currently. Of those women, 75% reported animal cruelty (e.g., kicked, hit with fist/object, thrown against a hard object). In all cases of animal cruelty, pets were actually abused and multiple threats of future abuse of the pet occurred.
27	<a href="#">Matijczak et al. (2020)</a> <sup>3</sup>	This study included the same sample as <a href="#">Hawkins et al. (2019)</a>	Cross-sectional; quantitative; maternal report of youth's exposure to AC	<b>Prevalence:</b> Prevalence estimates match <a href="#">Hawkins et al. (2019)</a> : 26% of mothers reported that their child had been exposed to animal cruelty by their partner. <b>Other Results:</b> Exposure to IPV was not significantly associated with exposure to animal cruelty ( $r = -0.04$ ).

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
28	McDonald et al. (2015) <sup>3</sup>	This study included 58 youth in the U.S. who were interviewed at baseline regarding their experiences of animal cruelty within the context of IPV between their mother and her partner. Youth in this study were all between the ages of 7 and 12 ( $M = 8.98$ years, $SD = 1.58$ years; 55% female). Youth's race/ethnicity included Native American or Alaska Native (1.7%), African American or Black (1.7%), White (36.2%), Latino or Hispanic (31%), and more than one race (29.3%).	Cross-sectional; qualitative; first-hand report by youth whose mothers were IPV survivors	<b>Prevalence:</b> In this subsample of youth who participated in the qualitative interview, approximately 38% reported that their pet had been hurt or killed by their mother's partner, 27% reported experiencing threats of harm to their pet, and 35% reported experiencing both threats and actual animal abuse (i.e., pet was harmed and/or killed). Through thematic analysis, almost half of youth ( $n = 29/58$ ) identified that animal cruelty was used as a tactic by their mother's abusive partner as a method of control, while some ( $n = 14/58$ ) reported that forms of animal cruelty were used to punish the pet.
29	McDonald et al. (2017) <sup>3</sup>	This study included the same sample as Hartman et al. (2018).	Cross-sectional; quantitative; first-hand report by IPV survivors and reports of their children's exposure to AC	<b>Prevalence:</b> In this sample, 76% of women reported that their intimate partner had threatened (i.e., 3%), harmed/killed (i.e., 56%), or had threatened to harm and had actually harmed/killed their pet (17%). A quarter of women also reported that their child had witnessed (seen and/or heard) the animal cruelty within the context of IPV co-occurring in the home.
30	McDonald et al. (2018a) <sup>3</sup>	This study included a sample of 291 mother-child dyads who met the following criteria: Mother was at least 21 years old, had at least one child between the ages of 7 and 12 years, and had a family pet in the home in the past year. All women included in the sample had experienced IPV and lived in the U.S. Mothers were on average 37 years old ( $SD = 7.89$ ), and the youth participating in the study was on average 8.91 years ( $SD = 1.57$ ; 49% female). Mothers' race/ethnicity included White (54.1%), Hispanic (24.3%), Multi-racial (14.9%), Black (1.4%), Asian (1.4%), American Indian/Alaska Native (1.4%), and Native Hawaiian/Pacific Islander (1.4%). The majority of children were White (41.9%), followed by multi-racial/ethnic (32.4%), Hispanic (20.3%), African American (2.7%), Asian (1.4%), and Native American or Alaska Native (1.4%).	Cross-sectional; mixed methods; maternal report of youth socioemotional functioning and interview data from both mothers and youth regarding their experiences with AC	<b>Prevalence:</b> This study identified three underlying subgroups of youth based on their socioemotional functioning: (a) Resilient group, (b) struggling group, and (c) severely maladjusted group. Among the 191 youth in the resilient group, 28 mothers (14.7%) reported that the youth had been exposed to animal cruelty; 48.2% of youth in the struggling group ( $n = 83$ ) and 41.2% of youth in the severely maladjusted group ( $n = 17$ ) were reported by their mothers to have witnessed animal cruelty in the home. The subgroups identified were then condensed into asymptomatic and emotional / behavioral difficulties groups. Qualitative data from mothers and youth were used to provide more specific information about youths' exposure to animal cruelty. The majority of youth within the asymptomatic group were exposed to mild violence against animals (67%), with some exposure to mild/severe threats of violence (44%). In contrast, youth within the emotional and behavioral difficulties group primarily had been exposed to severe violence against animals (81%) and severe threats of violence (30%).

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
31	McDonald et al. (2019) <sup>3</sup>	<p>This study included 65 women from a U.S. domestic violence shelter with a child who had been exposed to animal cruelty within the home. Women ranged in age from 21–56 years (<math>M = 36.45</math>, <math>SD = 7.70</math>) and youth ranged in age from 7–12 years (<math>M = 8.97</math>, <math>SD = 1.52</math>; 43% girls).</p> <p>Women's race/ethnicity included non-Latina White (58.5%), Hispanic/Latina (24.6%), multi-racial/ethnic (12.3%), African American or Black (1.5%), and Asian (1.5%). Youth were primarily non-Latina/o White (46.2%), followed by multi-racial/ethnic (29.2%), Latino/Hispanic (21.5%), African American or Black (1.5%), Asian or American Indian (1.5%).</p>	Cross-sectional; qualitative; maternal report of their child's experience of AC within the context of IPV	<p><b>Prevalence:</b> Within the larger study that this sample was derived (<math>N = 291</math>), 29% of mothers reported that at least one of their children had witnessed animal cruelty (i.e., animal abuse, killing of pet). The current study identified more specific detail regarding youth's exposure to animal cruelty within the home; 90.7% of the current sample (<math>n = 59</math> of 65) reported that their children had experienced animal cruelty through directly witnessing threats of and actual violence against animals by their partner.</p> <p><b>Other Results:</b> In the qualitative analysis, mothers reported that one reason for animal maltreatment by their partners was as a method to control the child (<math>n = 8</math>, 12.30%).</p>
32	Murphy et al. (2021) <sup>3</sup>	This study included the same sample as Hawkins et al. (2019).	Cross-sectional; quantitative; maternal report of youth's exposure to animal cruelty.	<p><b>Prevalence:</b> The current study reports that 27% of mothers reported that their child had been exposed to animal cruelty by their partner.</p> <p><b>Other Results:</b> Exposure to IPV was not significantly associated with exposure to animal cruelty (<math>r = -0.04</math>).</p>
33	Newberry (2017)	<p>This study collected stories of animal abuse occurring within a domestic violence relationship from public, online discussion forums. (No specific location information was provided in the study). Stories were reported from the victims' perspective. In total, 74 stories were used in this analysis.</p>	Cross-sectional; qualitative; self-report	<p><b>Other Results:</b> Thematic analysis resulted in four main themes. Of these themes, one provided information regarding why animal cruelty may co-occur within a domestic violence relationship. Forum stories suggest that companion animal abuse is used as a method to control IPV victims. This was accomplished by using threats and or harm of pets to keep the victim isolated, to maintain financial control, and to coerce the victim to remain in, or return to, the relationship.</p>

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
34	<a href="#">Riggs et al. (2021)</a>	<p>This sample included 503 adults in Australia (AUS, <math>n = 258</math>) and the United Kingdom (UK, <math>n = 244</math>) with diverse gender identities and sexual orientations. Participants ranged in age from 18–81 years (<math>M = 39.40</math> years, <math>SD = 30.04</math> among AUS participants, <math>M = 38.45</math> years, <math>SD = 12.46</math> among UK participants). Among AUS participants, 57.3% identified as female, 29.0% were male, and 10.9% were nonbinary; among UK participants, 63.9% were female, 22.5% identified as male, and 10.7% were nonbinary. Of those who responded, 17.8% of AUS and 20.5% of the UK sample reported “ever identifying as trans.” Participants also reported their sexual orientations: lesbian (AUS: 35.7%; UK: 32.4%), gay (AUS: 26.4%; UK: 18.4%), bisexual (AUS: 14.0%; UK: 28.7%), pansexual (AUS: 11.6%; UK: 11.1%), asexual (AUS: 2.3%; UK: 0.4%), queer (AUS: 7.76%; UK: 6.1%), and heterosexual (AUS: 1.6%; UK: 2.9%).</p> <p>Australian participants reported their Indigenous status as Aboriginal (2.3%), Torres Strait Islander (0.4%), or neither (94.6%). UK participants reported their ethnicity as Asian (1.2%), Black/Caribbean/African (0.4%), Chinese (0.8%), Mixed ethnic group (1.6%), or White (94.3%).</p>	Cross-sectional; quantitative; first-hand account by a general sample	<p><b>Prevalence:</b> Prevalence of IPV varied by type of abuse: Emotional abuse (40.55%), physical abuse (23.06%), sexual abuse (16.50%), financial abuse (11.33%), and identity abuse (20.27%). Among participants who endorsed experiencing IPV, 21.0% had also experienced the abuse of their animal companion by their partner.</p> <p><b>Other Results:</b> There were no statistically significant differences in animal cruelty experiences based on gender identity or sexual orientation.</p>

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
35	Simmons and Lehmann (2007)	This study included 1283 women who received services at a domestic violence shelter in an urban area of Texas (U.S.) between 1998 and 2002, and who reported having a pet in the home where IPV occurred. No further information regarding age, gender identity, sexual orientation, and race/ethnicity were provided.	Cross-sectional; quantitative; first-hand account by IPV survivors	<p><b>Prevalence:</b> In this sample, 25% (<math>n = 323</math>) of women reported that their partner had also perpetrated animal cruelty.</p> <p><b>Other Results:</b> The results of a chi-square analysis found a significant relationship between those who reported their partner had abused their pet and IPV, such that more participants who endorsed animal abuse also endorsed their partner's use of sexual violence, marital rape, emotional violence, and stalking. However, there was not a significant relationship between the presence of animal abuse and human physical violence. There were also significant differences across all IPV measure subscales (i.e., physical abuse, sexual abuse, isolation, minimization/denial, blaming, intimidation, threats, male privilege, emotional abuse, and economic abuse) and total scores based on whether the partner had abused animals. Positive correlations were also found between the extent of animal abuse and all IPV measure subscales.</p>
36	Strand and Faver (2005)	51 women who were receiving domestic violence shelter services in the U.S. were included in this study. Women's ages ranged from 22–57 years ( $M = 38$ years, $SD = 9.22$ ). The majority of the sample was White (57%), followed by Black (18%), Hispanic (8%), Asian (2%), and unknown (16%).	Cross-sectional; mixed methods; first-hand account by IPV survivors	<p><b>Prevalence:</b> Out of the 51 women in this study, 84% reported having pets while in their abusive relationship; 74% reported that their partner had threatened to harm their pet, 52% reported that their pet had actually been harmed, and 14% reported that their pet had been killed. In sum, 86% of women who lived with a pet during their abusive relationship endorsed that their partner had threatened, harmed, and/or killed their pet.</p>
37	Tiplady et al. (2018)	This sample included 13 women who were victims of domestic violence, had lived with a pet during that relationship, and had received services through a Queensland, Australia domestic violence service/refuge. Participants ranged in age from 20–55 years ( $M = 39.08$ ). Of the participants, 2 were noted to be Indigenous and 1 was reported to be English. No further information regarding race/ethnicity, gender identity, or sexual orientation was provided.	Cross-sectional; qualitative; first-hand account by IPV survivors	<p><b>Prevalence:</b> In this sample, 8 women (61.5%) reported that their pets had been abused and/or neglected by their abusive partner. Types of abuse included verbal (<math>n = 7</math>), physical abuse (<math>n = 7</math>), and neglect (<math>n = 6</math>).</p> <p><b>Other Results:</b> In their interview, women also described reasons for their partners' animal abuse: (a) To control/punish the animal, (b) to increase the animal's "toughness", and (c) to intentionally upset them.</p>

Table 3. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
38	Volant et al. (2008)	204 participants were recruited from domestic violence services in Victoria, Australia ( $n = 102$ ) and from the community without domestic violence experience ( $n = 102$ ). Women in the DV sample ranged in age from 23–66 years ( $M = 38.50$ years, $SD = 9.48$ years), and women from the community ranged in age from 18–74 years ( $M = 42.06$ years, $SD = 13.25$ years). No further information regarding gender identity, sexual orientation, or race/ethnicity were reported.	Cross-sectional; quantitative; first-hand account by IPV survivors and a general community sample	<p><b>Prevalence:</b> Among women who had experienced DV, 53% reported having at least one dog and 40% had at least one cat. Similarly, 58% of women recruited from the community without DV experience reported having had at least one dog and 49% had at least one cat; 52.9% of women in the DV group reported their partner had abused a pet and 46% reported their partner had threatened to harm their pet. Types of pet abuse reported by the women included the pet being kicked, punched/hit, thrown, choked/suffocated, shot, and stabbed; 29% of women in the DV group reported that their children had witnessed their partner abusing the pet. In contrast, no women in the community group reported pet abuse by their partner and only 5.8% reported their partner had threatened to harm the pet.</p> <p><b>Other Results:</b> The results of a logistic regression suggest that those with a partner who had threatened to harm their pet were 5x more likely to be in the DV group than those whose partner had not threatened their pet, adjusting for age, number of children, education level, and relationship status.</p>



**Table 4.** Studies Included in the Scoping Review That Examined Intimate Partner Violence and Youth Engagement in Animal Cruelty.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
1	Ascione (1997)	Female domestic violence (DV) victims seeking services at a DV shelter in the U.S. ( $N = 38$ ; 20–51 years, $M = 30.2$ years).	Cross-sectional, quantitative; maternal report	<b>Prevalence:</b> Of the 38 women included in this study, 22 had children; 32% of mothers ( $n = 7$ ) reported that one of their children had hurt or killed a pet. Of these, 5 (71%) reported that their partner had also threatened to or actually hurt or killed the pet.
39	Ascione et al. (2003)	This study included maternal report for 1433 youth ranging in age from 6–12 years. Youth were then split into 3 groups: A normative group sampled from medical clinics in Rochester, Minnesota and daycare centers in Los Angeles, California ( $n = 540$ ), a group who had been sexually abused referred from 13 U.S., Canadian, and European clinics ( $n = 481$ ), and a group of youth participating in a psychiatric outpatient group recruited from 6 clinics in the U.S. and 1 clinic in Germany ( $n = 412$ ). No other sample demographic information was available (e.g., gender/sex, race/ethnicity).	Cross-sectional; quantitative; maternal report	<b>Prevalence:</b> No statistics for prevalence of animal cruelty among the normative group was available in this study. Among the group of youth who had experienced sexual abuse, mothers who reported the presence of physical fighting between parents also reported that 23.1% of boys and 20% of girls committed animal cruelty. When mothers reported that youth were exposed to both physical fighting between parents and physical abuse victimization, the rates of animal cruelty increased to 36.8% for boys and 29.4% for girls. For youth who were receiving psychiatric services, mothers who reported physical fighting between parents reported that 12.1% of boys had committed animal cruelty. When youth in this group had been exposed to both physical fighting between parents and physical abuse victimization, the rate of animal cruelty by the youth increased to 60% for boys. Mothers did not report any instances of animal cruelty engagement by girls when either physical fighting between parents was present and/or when both physical fighting between parents and physical abuse victimization were endorsed.
3	Ascione et al. (2007)	DV victims in Utah (U.S.) who received DV shelter services ( $N = 101$ women, 17–51 years, $M = 31.7$ years; 39 children, $M = 9.8$ years, 43.6% girls) and a community sample of women ( $N = 120$ women, 19–57 years, $M = 32.5$ years; 58 children, $M = 10.9$ years, 44.8% girls). Race/ethnicity of the Shelter group included 68.3% Caucasian, 12.9% Hispanic/Latina, 6.9% Native American, 7.9% African American, 4.0% Other; the community sample included 95.7% Caucasian, 0.1% Asian, 3.4% Native American.	Cross-sectional, quantitative; maternal report and youth self-report	<b>Prevalence:</b> Among the group receiving DV shelter services, 37.5% of mothers reported that one of their children (i.e., not just the youth included in the study) were reported to have hurt or killed a pet, and 10.5% of youth who participated in the study had hurt or killed a pet. In contrast, 11.8% of mothers in the community sample reported that one of their children had hurt or killed a pet. Among youth in the DV group, 13.2% of youth admitted to hurting and/or killing pets during their interview.

Table 4. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
40	Baldry (2003)	This study included a sample of 1396 youth recruited from a random selection of schools in Rome, Italy. Youth ranged in age from 9–17 years ( $M = 12.1$ years, $SD = 2.6$ years) and were approximately evenly split between girls (45.9%) and boys (54.1%). No information was provided regarding the youth's race.	Cross-sectional; quantitative; youth self-report	<p><b>Prevalence:</b> The majority of youth (81.9%) reported having had a pet and/or currently living with a pet, and approximately half of youth (50.8%) reported having engaged in at least one form of animal cruelty (e.g., hitting). Significant differences were found based on gender: 66.5% of boys endorsed animal cruelty vs. 33.5% of girls. The proportion of youth who engaged in animal cruelty varied based on exposure to domestic violence. For example, 44.2% of youth who had not been exposed to DV reported having abused animals, while 58.2% of youth who had been exposed to DV reported having been cruel to animals. Youth exposed to physical DV and threats of violence (67.3% vs. 46.8%), father-to-mother DV (58.7% vs. 44.4%), physical father-to-mother DV and threats (67.3% vs. 47.5%), mother-to-father DV (59.6% vs. 45.6%), and mother-to-father DV and threats (67.5% vs. 48.5%) more frequently endorsed animal cruelty.</p> <p><b>Other Results:</b> Youth who were exposed to DV were 1.7 times more likely to abuse animals than their peers who were not exposed to DV. Parental animal cruelty perpetration was also associated with greater odds of youth animal cruelty (father <math>OR = 3.1</math>, mother <math>OR = 4.0</math>). Among youth who had been exposed to IPV and child maltreatment, older age, being male, parental animal cruelty, peer animal cruelty, and mother-to-father violence were positively associated with youth engagement in animal cruelty; among youth who had only been exposed to IPV, only being male, parental animal cruelty, and peer animal cruelty were significantly and positively associated with youth engagement in animal cruelty.</p>
41	Baldry (2005)	A sample of 532 youth recruited from 5 elementary and middle schools in Rome, Italy was included in this study. Participants included 268 girls (50.38%) and 264 boys (49.62%) who were on average 11.8 years ( $SD = 1.01$ years). No information was provided regarding the youth's race.	Cross-sectional; quantitative; youth self-report	<p><b>Prevalence:</b> In this sample, youth who had been exposed to parental DV were more likely to abuse animals. Specifically, youth exposed to father-to-mother violence more frequently endorsed animal cruelty in comparison to youth not exposed to this type of DV (59.2% vs. 33.1%) and 60.3% of youth exposed to mother-to-father violence reported being cruel to animals in comparison to 33.9% of youth not exposed to mother-to-father violence.</p> <p><b>Other Results:</b> Youth exposed to IPV by their father or mother were approximately 3x as likely to engage in animal cruelty in comparison to their peers not exposed to IPV. However, accounting for other forms of victimization/violence (e.g., school victimization), IPV exposure was no longer significantly associated with animal cruelty.</p>

Table 4. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
42	Becker et al. (2004)	<p>This study included a sample of 62 women recruited from U.S. DV shelters, 102 women who had experienced IPV and were recruited from the community, and 199 women with no DV experience recruited as a comparison group. Each woman had a child between 6 and 12 years of age who had lived with them during the past year. On average, women were 33.1 years old (<math>SD = 5</math> years), and their children who participated in the study were on average 9.1 years old (<math>SD = 1.94</math> years). There were approximately equal groups of boys (<math>n = 184</math>; 50.7%) and girls (<math>n = 179</math>; 49.3%). Youth's race/ethnicity included Anglo European (53.4%), Hispanic (35.1%), African American (5.5%), Native American (4.4%), and Asian/Pacific Islander (1.6%).</p>	Longitudinal; quantitative; maternal report and youth self-report	<p><b>Prevalence:</b> At baseline, only 6.9% of youth (<math>N = 363</math>) were reported by their mothers to have been cruel to animals. Only 2.9% of youth self-reported being cruel to animals, with only 1 consistent maternal–youth report of animal cruelty. Youth who had been exposed to IPV were more likely to have been cruel to animals in comparison to youth who had not been exposed to IPV (11.4% vs. 5.3%).</p>
43	Currie (2006)	<p>This sample included a community sample of mothers living in central Canada who had at least 2 children between 5 and 17 years. Two subgroups were created: A group of women with a history of male-to-female IPV that their children had been exposed to (<math>n = 47</math> mothers, <math>M = 34.8</math> years; 94 children, <math>M = 9.9</math> years) and a comparison group of women without a history of IPV (<math>n = 45</math> mothers, <math>M = 35.2</math> years; 90 children, <math>M = 9.5</math> years); 60% of youth exposed to DV were male, and 44% of the comparison group were male. The race/ethnicity of the sample was not reported.</p>	Cross-sectional; quantitative; maternal report	<p><b>Prevalence:</b> Youth who had been exposed to IPV were more likely to engage in animal cruelty in comparison to youth who had not been exposed to IPV. Specifically, 17% of mothers with a history of IPV reported that their child had engaged in AC, while 7% of mothers in the comparison group reported their child had been cruel to animals.</p>

Table 4. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
44	Duncan et al. (2005)	<p>This study reviewed the psychiatric charts of 289 youth who had received residential psychiatric treatment within the past 10 years at a psychiatric institution in the Pacific Northwest of the U.S.</p> <p>From these charts, the researchers took a subsample of 50 adolescents who had a history of animal cruelty and a random subsample of 50 adolescents who did not have a history of animal cruelty. All youth whose charts were reviewed in this study were male and ranged in age from 8–17 years. Youth in both groups were primarily White (92% AC group, 90% non-AC group), and included a few other individuals of different races. Specifically, the AC group included 2 African American and 2 bi-racial youth, and the non-AC group included 1 African American and 2 Native American youth.</p>	Cross-sectional; quantitative; chart review	<p><b>Prevalence:</b> Among the full sample, 17% of adolescents had a history of animal cruelty. Among those who had engaged in animal cruelty, 32% had been exposed to domestic violence. In comparison, 16% of youth in the group who had not engaged in animal cruelty had been exposed to domestic violence.</p> <p><b>Other Results:</b> Bivariate logistic regression found that youth who engaged in animal cruelty were approximately 2.5 times more likely to have also been exposed to DV.</p>
17	Flynn (2000b)	<p>The sample included 107 women who had received services at a South Carolina (U.S.) DV shelter.</p> <p>Women's ages ranged from 17–61 years (<math>M = 32.4</math> years), and race/ethnicity included 59.8% White, 36.5% Black, 2.8% Hispanic, and 1.9% Asian.</p>	Cross-sectional, quantitative; maternal report	<p><b>Prevalence:</b> Among the 43 women who had lived with pets, only 2 reported their children had been cruel to animals. One mother reported their child and partner had threatened the pet, and the other mother reported that their child had harmed their pet (with no animal cruelty by their partner).</p>

Table 4. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
45	Hartman et al. (2019) <sup>3</sup>	This study included 290 mother–child dyads recruited from 22 U.S. DV agencies. Inclusion criteria included that the mother experienced IPV within the past year, had at least one child between 7 and 12 years who lived with them, and had at least one pet animal in the home in the past year. Mothers were 21–65 years old ( $M = 33.6$ years, $SD = 7.43$ years) and youth were on average 9.07 years ( $SD = 1.6$ years); 52.6% of youth were boys and 47.4% were girls. Mothers' race/ethnicity included White (26.9%), Hispanic (60.7%), Black (3.4%), Pacific Islander (0.3%), Asian (0.3%), American Indian/Alaskan (1.7%), Mixed race (6.6%), and youth's race/ethnicity included White (22.0%), Hispanic (55.3%), Black (3.4%), Asian (0.3%), American Indian/Alaskan (1.0%), and mixed race (17.9%).	Cross-sectional; quantitative; maternal report and youth self-report	<b>Prevalence:</b> In this sample, 16.2% of youth were reported to have been cruel to animals at least once according to either maternal or self-report. No significant sex or age differences were found between youth who engaged in AC or did not engage in AC.
46	Knight et al. (2014)	This study used data between 1990 and 2004 in the National Youth Survey Family Study, a multi-generational study in the U.S. The sample included 1614 participants, including 547 parents (assessed at Wave 8) and their 1067 children (assessed at Wave 12). The parents were primarily female (58%) and White (84%) and were on average 27 years old ( $SD = 1.95$ ) with 13 years of education ( $SD = 2.09$ ). The children at Wave 12 were evenly split in terms of sex (50% female), primarily White (80%), and were on average 18 years old at the time of assessment ( $SD = 3.72$ ).	Longitudinal; quantitative; self-report by parents at Wave 8 and by their children at Wave 12	<b>Other Results:</b> This study examined intra- and inter-generational predictors of IPV and animal abuse. Adjusting for parent gender and history of animal abuse and child's gender, parents' history of engagement in IPV ( $OR = 2.65$ ) and being male ( $OR = 10.94$ ) significantly predicted youth's engagement in animal abuse in comparison to youth whose parents did not report IPV and youth who were females, respectively.

Table 4. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
24	Krienert et al. (2012)	This study recruited domestic violence service organizations using a directory of U.S. DV programs; 767 domestic violence shelters responded to the survey. On average, the participating shelters served 480 clients in the 6 months prior to participating in the study. Almost 40% of shelters were located in the Midwest. No further sample information was provided.	Cross-sectional; mixed methods; report by service providers	<b>Prevalence:</b> 43.0% of shelters reported that women who sought services within their agency discussed incidents when their child was cruel to pets.
47	McDonald et al. (2018b) <sup>3</sup>	This sample included 46 maternal–child dyads recruited from U.S. DV shelters and who had endorsed animal cruelty behaviors by the child. In the overarching study, inclusion criteria included mothers at least 21 years of age, who had at least one child between 7 and 12 years of age, and who had at least one pet in the home within the past year. Youth were on average 8.91 years old ( $SD = 1.68$ ), and the majority were male ( $n = 29$ ; 63.0%). Youth’s race/ethnicity included White (45.7%), Multiracial (28.3%), Hispanic (23.9%), and Black (2.2%).	Cross-sectional; qualitative; maternal report and youth self-report	<b>Prevalence:</b> 72% of mothers and/or youth reported that the youth had engaged in behaviors that met the definition of animal cruelty (i.e., “socially unacceptable behavior that intentionally causes unnecessary pain, suffering, or distress to and/or death of an animal”).
48	McEwen et al. (2014)	This study used the Environmental Risk Longitudinal Twin Study that collected baseline data from 1116 families in England and Wales with same-sex 5-year-old twins in 1999–2000. Therefore, the sample included 2232 youth (49% boys) who were all 5 years old at baseline. Follow-up data collection occurred when the youth were aged 7, 10, and 12. No information was provided regarding the youth’s race/ethnicity.	Longitudinal; quantitative; parental report	<b>Prevalence:</b> Animal cruelty occurred most commonly at age 5 (5.9%) and tapered off over time (3.6% at age 7, 1.5% at age 10, and 1.6% at age 12); 9.1% of youth were reported to have been cruel to animals at any age, while only 0.1% of the sample were reported to have engaged in animal cruelty at all four time points. Among youth who had engaged in animal cruelty, 6.2% had been exposed to only domestic violence (i.e., no child maltreatment history) and 22% had been exposed to both domestic violence and child maltreatment. <b>Other Results:</b> In a model including gender, maltreatment history, socioeconomic status, and DV exposure, gender (i.e., being a boy) was associated with animal cruelty engagement ( $OR = 2.87$ ) but DV exposure was not.



Table 4. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
37	<a href="#">Tiplady et al. (2018)</a>	This sample included 13 women who were victims of domestic violence, had lived with a pet during that relationship, and had received services through a Queensland, Australia domestic violence service/refuge. Participants ranged in age from 20–55 years ( $M = 39.08$ ). Of the participants, 2 were noted to be Indigenous and 1 was reported to be English. No further information regarding race/ethnicity, gender identity, or sexual orientation was provided.	Cross-sectional; qualitative; maternal report	<b>Prevalence:</b> In this sample of 13 women, 1 woman reported that both her partner and her partner's 12-year-old son had engaged in physically abusing their dog.
38	<a href="#">Volant et al. (2008)</a>	204 participants were recruited from domestic violence services in Victoria, Australia ( $n = 102$ ) and from the community without domestic violence experience ( $n = 102$ ). Women in the DV sample ranged in age from 23–66 years ( $M = 38.50$ years, $SD = 9.48$ years), and women from the community ranged in age from 18–74 years ( $M = 42.06$ years, $SD = 13.25$ years). No further information regarding gender identity, sexual orientation, or race/ethnicity were reported.	Cross-sectional; quantitative; maternal report	<b>Prevalence:</b> In the domestic violence subsample, 19% (18 of 93) of mothers reported that their children had engaged in animal cruelty (i.e., pet abuse). In contrast, only 1% (1 of 77) of mothers in the community sample group reported their child being cruel to animals.

**Table 5.** Studies Included in the Scoping Review That Examined Child Maltreatment and Animal Cruelty.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
49	Atwood-Harvey (2007)	Content analysis of selections from the author's personal and other published accounts	Cross-sectional; qualitative; content analysis	<b>Other Results:</b> One theme derived from the content analysis was the "Nature of Entangled Victimization." Children reported that the adult engaged in child maltreatment would threaten to harm (or actually harm) their pets as a coercive tactic. Youth also reported different reactions to the abuse of their pets. Some youth reported feeling fear and an inability to stop the abuse; other youth reported trying to intervene to stop the abuse of their pets, which sometimes resulted in their own victimization.
8	DeGue and DiLillo (2009)	A sample of college students from 3 universities in California, Nebraska, and Ohio (U.S.) were recruited ( $N = 860$ ). The average age was 20.1 years ( $SD = 1.72$ ). The majority of students were female (75.6%) and White (70.1%), although the sample also included 11.2% Asian, 7.1% Hispanic/Latino, and 4.2% Black students.	Cross-sectional; quantitative; retrospective reports of exposure to IPV, child abuse, and AC in childhood	<b>Prevalence:</b> 13.3% of the sample reported experiencing both family violence and animal cruelty. More specifically, 8.3% reported having experienced both child abuse and animal cruelty and 4.1% reported IPV, child abuse, and animal cruelty. <b>Other Results:</b> Bivariate analyses found that those who experienced child abuse and those who experienced both child abuse and exposure to IPV were more likely to witness or engage in animal cruelty compared to their peers who had not experienced child abuse or IPV. However, only emotional abuse (not sexual abuse, physical abuse, or neglect) was significantly associated with witnessing animal cruelty in childhood when adjusting for exposure to DV and engagement in animal cruelty ( $OR = 2.25$ ).
50	Girardi and Pozzulo (2012)	This study included a convenience sample of child protection workers in Canada ( $n = 78$ ). On average the sample was 34.4 years old; the majority of participants (80%) were female. No further demographic information was provided.	Cross-sectional; quantitative; report by service providers	<b>Prevalence:</b> During the course of a child protection investigation in the past year, 28% of child protection workers reported witnessing the caregiver perpetrate animal cruelty, such as physical abuse; however, this was reported to be a rare occasion (i.e., 1–15% of families). General observations of the home environment resulted in 94% of child protection workers observing evidence of animal neglect and 44% observing evidence of physical abuse (e.g., pet with a visible injury) during child protection investigations in the past year.

Table 5. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
20	Green and Gullone (2005)	185 veterinarians in Australia were recruited to assess their knowledge and attitudes regarding the intersection of IPV and animal abuse. The sample ranged in age from 20–65+ years of age: 13% were between 20 and 29 years, 29.3% were 30–39 years, 32.1% were 40–49 years, 23.9% were 50–64 years, and 1.6% were 65+ years old; 58.8% of participants were male and 41.2% were female. No further demographic information about the veterinarians was provided.	Cross-sectional; quantitative; report by service providers	<b>Prevalence:</b> Of those who answered questions regarding human abuse, 5.9% reported being aware of potential human abuse occurring within families presenting with an animal who also displayed evidence of abuse, and 17.8% of veterinarians reported suspecting that human abuse was co-occurring. Of the human victims, 53.8% of veterinarians suspected that the spouse/partner was being abused, 15.4% suspected that a child was being abused, and 25% suspected that both the spouse/partner and children were victims of abuse; 5.1% of veterinarians suspected that another family member was the victim of abuse, although who was responsible for the abuse was not obtained.
51	Montminy-Danna (2007)	This study included 111 human services workers (i.e., child welfare workers, juvenile probation officers) obtained via convenience sampling in the U.S. Of those who provided their sex ( $n = 98$ ), 14.3% were male and 85.7% were female. No further demographic information was provided.	Cross-sectional; mixed methods; report by service providers	<b>Prevalence:</b> More than 95% of the sample included child welfare workers; 22.5% of child welfare workers reported having been assigned a case that involved animal cruelty incidents. The frequency of cases that involved animal cruelty were relatively low: 3 workers reported 1–2% of cases, 18 workers reported 5–12% of cases, and 4 workers reported 13–25% of their cases involved animal cruelty.
52	Zilney and Zilney (2005)	This study included Family and Children's Services investigators and Humane Society investigators in Wellington County, Ontario, Canada. Investigators completed checklists regarding child maltreatment and animal cruelty for a year. In total, 1485 intake forms were collected and evaluated in this study.	Cross-sectional; quantitative; review of human services and animal welfare services intake forms	<b>Prevalence:</b> Out of the 1485 intake forms collected, 50% included an animal in the home. Child and family services workers investigating allegations of child maltreatment indicated animal-related concerns in approximately 20% of homes. However, these concerns were not all animal cruelty concerns (e.g., pet behavioral problems). Intake forms completed by Humane Society investigators did not indicate any concerns related to child maltreatment; however, 10.6% ( $n = 10$ ) of cases were referred to Child and Family Services. In total, only 7 cases (0.47%) were investigated and substantiated by both Child and Family Services and the Humane Society due to child maltreatment (physical, emotional/psychological neglect; improper supervision; substance abuse; domestic violence; physical abuse; youth behavioral problems) and animal cruelty concerns (neglect, physical abuse).

**Table 6.** Studies Included in the Scoping Review Examining Child Maltreatment and Youth Engagement in Animal Cruelty.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
39	<a href="#">Ascione et al. (2003)</a>	This study included maternal report for 1433 youth ranging in age from 6–12 years. Youth were then split into 3 groups: A normative group sampled from medical clinics in Rochester, Minnesota and daycare centers in Los Angeles, California ( $n = 540$ ), a group who had been sexually abused referred from 13 U.S., Canadian, and European clinics ( $n = 481$ ), and a group of youth participating in a psychiatric outpatient group recruited from 6 clinics in the U.S. and 1 clinic in Germany ( $n = 412$ ). No other sample demographic information was available (e.g., gender/sex, race/ethnicity).	Cross-sectional; quantitative; maternal report	<p><b>Prevalence:</b> 3.1% of youth within the normative group (i.e., no exposure to sexual abuse, not receiving psychiatric services) were reported to have been cruel to animals. No further statistics regarding rates of animal cruelty within the context of child maltreatment in the normative group were provided. Among the group of youth who had experienced sexual abuse, 36% of boys who had also experienced physical abuse had been cruel to animals; however, experiencing both physical abuse and exposure to domestic violence among boys did not increase rates of animal cruelty (36.8%). For girls who had experienced sexual abuse, rates of animal cruelty were 17.1% when mothers reported exposure to physical abuse and an even higher rate (i.e., 29.4%) when girls were exposed to physical abuse and parental IPV. For youth who were receiving psychiatric services, mothers who reported their sons had experienced physical abuse reported 26.3% had been cruel to animals, and this rate doubled when both physical abuse and exposure to IPV was present. Rates of animal cruelty by girls who had experienced physical abuse was estimated to be 16.7%; however, no mothers reported animal cruelty when both physical abuse and exposure to DV were reported when both physical fighting between parents and physical abuse victimization were endorsed.</p>

Table 6. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
41	Baldry (2005)	A sample of 532 youth recruited from 5 elementary and middle schools in Rome, Italy was included in this study. Participants included 268 girls (50.38%) and 264 boys (49.62%) who were on average 11.8 years ( $SD = 1.01$ years). No information was provided regarding the youth's race.	Cross-sectional; quantitative; youth self-report	<p><b>Prevalence:</b> In this sample, youth who had been exposed to child maltreatment (i.e., verbal abuse, physical abuse) were more likely to abuse animals. Specifically, youth exposed to verbal abuse by their father more frequently endorsed animal cruelty in comparison to youth not exposed to this type of DV (54.4% vs. 34.1%) and 51.8% of youth exposed to verbal abuse by their mother reported being cruel to animals in comparison to 34.9% of youth not exposed to maternal verbal abuse. Similarly, youth exposed to physical abuse by their father were more likely to be cruel to animals compared to youth who were not exposed to physical abuse (48.8% vs. 36.0%) and youth exposed to physical abuse by their mother were also more likely to be cruel to animals in comparison to their peers who had not experienced maternal physical abuse (49.8% vs. 33.9%).</p> <p><b>Other Results:</b> Those exposed to verbal abuse by their father were approximately 2 times as likely to engage in animal cruelty, and physical abuse by their father was associated with 2 times the odds of animal cruelty for girls only. Youth exposed to maternal verbal abuse were approximately twice as likely to engage in animal cruelty; however, this relationship was only significant for boys. Youth exposed to maternal physical abuse were twice as likely to engage in animal cruelty than their peers not exposed to abuse. Adjusting for the effects of age, parental IPV, and bullying and victimization at school, parental verbal and physical abuse were no longer significantly associated with animal cruelty for boys; however, verbal abuse by the father was associated with higher odds that girls would engage in animal cruelty. In contrast, physical abuse by their father was associated with lower odds of animal cruelty for girls.</p>

Table 6. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
53	Baglivio et al. (2017)	A sample of 292,649 juvenile records of youth who were arrested and formally processed in Florida (U.S.) between 1 November 2005, and 1 December 2014, were examined for relations between family violence exposure and juvenile behaviors. The sample was predominantly male (68%). No overall average age of youth was provided; however, for animal cruelty behaviors and fire-starting behaviors, youths' average age ranged from 16.5–17.1 years. The race/ethnicity of youth included White (44%), Black (39%), Hispanic (16%), and other racial/ethnic groups (1%).	Cross-sectional; quantitative; chart review	<b>Other Results:</b> Bivariate logistic regression found that a history of child welfare placement ( $OR = 1.1$ ), physical abuse ( $OR = 1.3$ ), sexual abuse ( $OR = 1.8$ ), and neglect ( $OR = 1.4$ ) were all associated with higher odds of animal cruelty issues/charges among youth in this sample. Additionally, mental health problems such as suicidal behavior ( $OR = 1.6$ ), anger issues ( $OR = 1.5$ ), anxiety ( $OR = 1.2$ ), and thought disturbance ( $OR = 1.1$ ) were associated with higher odds of animal cruelty issues/charges.
42	Becker et al. (2004)	This study included a sample of 62 women recruited from U.S. DV shelters, 102 women who had experienced IPV and were recruited from the community, and 199 women with no DV experience recruited as a comparison group. Each woman had a child between 6 and 12 years of age who had lived with them during the past year. On average women were 33.1 years old ( $SD = 5$ years), and their children who participated in the study were on average 9.1 years old ( $SD = 1.94$ years). There were approximately equal groups of boys ( $n = 184$ ; 50.7%) and girls ( $n = 179$ ; 49.3%). Youth's race/ethnicity included Anglo European (53.4%), Hispanic (35.1%), African American (5.5%), Native American (4.4%), and Asian/Pacific Islander (1.6%).	Longitudinal; quantitative; maternal report and youth self-report	<b>Other Results:</b> There was no significant relationship between sexual abuse and engagement in animal cruelty in this sample. The majority of sexual abuse victims were female, while the majority of individuals engaged in animal cruelty were male. The non-significant relationship is likely due to the small number of youth who had experienced both sexual abuse and engaged in animal cruelty.

Table 6. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
54	Boat et al. (2011)	This U.S.-based study included a review of 110 psychiatric (inpatient and outpatient) charts were reviewed to examine relations between factors associated with animal cruelty; 55 charts were of youth with endorsed animal cruelty, the remaining 55 charts were a convenience sample that were propensity score matched based on demographic characteristics (e.g., age, gender, race, inpatient/outpatient status). Youth's age ranged from 3–17 years ( $M = 11.3$ years, $SD = 3.84$ years), and the majority of youth were male (71.8%). Youth were also primarily White (81.8%), although youth also were African American (14.6%) and other races/ethnicities (3.6%).	Cross-sectional; quantitative; chart review	<p><b>Prevalence:</b> In this sample, 36.4% of youth who were cruel to animals had witnessed violence or abuse in comparison to 25.5% of youth who were in the control group (i.e., youth with no reports of being cruel to animals). Similarly, more youth who had been cruel to animals also endorsed being the victim of sexual abuse (29.1% vs. 12.7%), physical abuse (36.4% vs. 21.8%), emotional abuse (23.6% vs. 14.5%), neglect (21.8% vs. 16.4%), and some other form of trauma (43.6% vs. 41.8%) in comparison to youth in the control group.</p> <p><b>Other Results:</b> Only those who had been a victim of sexual abuse were significantly more likely to have engaged in animal cruelty (<math>OR = 2.81</math>). Experiencing physical abuse, emotional abuse, and neglect were not significantly associated with greater odds of having engaged in animal cruelty vs. not having engaged in animal cruelty.</p>
55	Bright et al. (2018)	This study reviewed the juvenile delinquency records of youth first referred to the U.S. Department of Juvenile Justice between December 2005 and December 2014 in Florida ( $N = 81,171$ ). Youth who were adjudicated during this time frame were included in the study. Ages of youth included in the study were categorized as $\leq 12$ years old ( $n = 20,768$ ; 25.6%), 13–16 years ( $n = 29,583$ , 36.4%), and over 16 years ( $n = 6010$ , 7.4%). The majority of youth were males ( $n = 63,314$ ; 78%). The racial/ethnic composition of the youth included White ( $n = 3099$ ; 38.2%), Black ( $n = 37,094$ ; 45.7%), Hispanic ( $n = 12,673$ ; 15.6%), and Other ( $n = 392$ ; 0.5%).	Cross-sectional; quantitative; juvenile records review	<p><b>Prevalence:</b> In this sample of juvenile-justice-involved youth, less than 1% reported engaged in animal cruelty (<math>n = 466</math>). Of the 466 youth who engaged in animal cruelty, approximately 50% endorsed physical abuse, 45% had experienced emotional abuse, and 25–30% had experienced emotional neglect, sexual abuse, and/or physical neglect.</p> <p><b>Other Results:</b> Youth who were cruel to animals were more likely to endorse all ten ACEs in comparison to youth who had not engaged in animal cruelty. More specifically, after adjusting for sex and race/ethnicity, youth who were exposed to physical abuse (<math>OR = 4.65</math>), sexual abuse (<math>OR = 4.40</math>), physical neglect (<math>OR = 3.52</math>), emotional abuse (<math>OR = 2.29</math>), and emotional neglect (<math>OR = 2.19</math>) were more likely to be cruel to animals in comparison to those not exposed to each of these types of child maltreatment. Sex did not significantly moderate the relationship between type of child maltreatment and likelihood to engage in animal cruelty.</p>



Table 6. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
56	Browne et al. (2017)	This sample included 257 male inmates in a southern U.S. medium-security prison. The median age of participants was 38 years. The majority of participants were White (56.8%), and no further racial/ethnic composition information was provided.	Cross-sectional; quantitative; retrospective self-report	<b>Other Results:</b> Mental abuse and physical abuse were positively correlated with having engaged in recurrent animal cruelty in childhood. Adjusting for the effects of race, education, residence (i.e., urban, rural), age first witnessed animal cruelty, frequency of witnessing animal cruelty, relation to the person engaging in animal cruelty (i.e., parent, sibling, other family member, friend, neighbor), physical abuse, but not mental abuse, was significantly and positively associated with the frequency of animal cruelty.
8	DeGue and DiLillo (2009)	A sample of college students from 3 universities in California, Nebraska, and Ohio (U.S.) were recruited ( $N = 860$ ). The average age was 20.1 years ( $SD = 1.72$ ). The majority of students were female (75.6%) and White (70.1%), although the sample also included 11.2% Asian, 7.1% Hispanic/Latino, and 4.2% Black students.	Cross-sectional; quantitative; retrospective reports of exposure to IPV, child abuse, and AC in childhood	<b>Prevalence:</b> 49.4% of the sample had experienced one or more forms of family violence (i.e., physical abuse, sexual abuse, emotional abuse, physical neglect, exposure to domestic violence). Only 4.3% of the full sample reported engaging in animal cruelty. Rates of animal cruelty were higher (i.e., 5.4%) among those who experienced family violence in comparison to those who had not experienced family violence (i.e., 3.2%). Most of the participants who had engaged in animal cruelty (62.2%) had been exposed to child maltreatment or exposure to domestic violence. <b>Other Results:</b> Bivariate analyses (chi-square) found that those who experienced child abuse and those who experienced both child abuse and exposure to IPV were more likely to witness or engage in animal cruelty compared to their peers who had not experienced child abuse or IPV. However, child maltreatment (i.e., sexual, physical, emotional abuse; neglect) was not significantly associated with animal cruelty behaviors in childhood when adjusting for exposure to DV and witnessing animal cruelty.

Table 6. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
44	Duncan et al. (2005)	This study included the review of psychiatric records of 289 youth who were admitted to residential treatment for conduct disorder at an institution in the U.S. Pacific Northwest within the prior 10 years from the study date. From this review, an analytic sample of 50 youth who had a history of animal cruelty engagement and 50 youth without this history were randomly selected. Youth ranged in age from 8–17 years (median = 13 years) and were all male. The animal cruelty sample were mostly White youth (92%), but also included 2 African American youth and 2 bi-racial youth; the comparison group were also mostly White (90%) with one African American youth, 2 Native American youth, and 2 bi-racial youth.	Cross-sectional; quantitative; review of psychiatric residential treatment records	<p><b>Prevalence:</b> During the chart review, 17% of all 289 youth had a history of animal cruelty engagement. In the analytic sample, among those who had engaged in animal cruelty, 60% had also experienced physical abuse, 46% had been sexually abused, and 32% had been exposed to domestic violence. In comparison, only 40% of youth who had not been cruel to animals reported experiencing physical abuse, 28% of youth endorsed sexual abuse, and 16% had been exposed to domestic violence.</p> <p><b>Other Results:</b> Bivariate analyses found that children who were cruel to animals also reported more physical abuse and sexual abuse in comparison to youth who were not cruel to animals. More specifically, youth who engaged in animal cruelty were approximately twice as likely to have experienced physical abuse and sexual abuse.</p>
57	Fleming et al. (2002)	This sample included 381 male, adjudicated youth offenders currently in 3 different institutions in a midwestern U.S. state (i.e., largest training school, largest residential treatment center, largest non-profit group home in the state). On average, the youth were 16.9 years old ( $SD = 1.47$ ), and the majority of youth were African American (55%), followed by White (28%), Hispanic (6%), and other race/ethnicity (e.g., Native American and Asian; 11%).	Cross-sectional; quantitative; youth self-report	<p><b>Other Results:</b> Among a sample of juvenile offenders, youth who had engaged in sexual activity with a non-human animal reported more emotional abuse and emotional neglect than both sex offenders and non-sex offenders. No significant differences between youth who had engaged in sexual activity with a non-human animal and sex offenders were found regarding physical abuse or sexual abuse.</p>

Table 6. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
58	Flynn (1999)	The sample in this study included 267 undergraduate students in either an introductory psychology or sociology course at a public university in the Southeastern U.S. Students were recruited via convenience sampling methods. The majority of participants (68%) were female, and 80% of the sample were less than 21 years of age; 73% of participants were White and approximately 20% were African American. No further demographic information was provided.	Cross-sectional; quantitative; retrospective reports of parental corporal punishment and animal cruelty perpetration	<b>Other Results:</b> Among the subsample of males, child abuse was not significantly associated with animal cruelty engagement, adjusting for the effects of father's corporal punishment, father-to-mother DV, and father's education level.
50	Girardi and Pozzulo (2012)	This study included a convenience sample of child protection workers in Canada ( $n = 78$ ). On average the sample was 34.4 years old; the majority of participants (80%) were female. No further demographic information was provided.	Cross-sectional; quantitative; report by service providers	<b>Prevalence:</b> During the course of a child protection investigation in the past year, 45% of child protection workers reported witnessing a child engage in animal cruelty, such as physical abuse; however, this was reported to be a rare occasion (i.e., 1–15% of families). General observations of the home environment resulted in 94% of child protection workers observing evidence of animal neglect and 44% observing evidence of physical abuse (e.g., pet with a visible injury) during child protection investigations in the past year.
59	Henry (2006)	This study recruited students from an Introduction to Psychology course at a U.S. university. The sample consisted of 286 students ranging in age from 18–50 years ( $M = 22.7$ years, $SD = 6.98$ years). The full sample included 53.5% women and 46.5% men. Participants selected all racial/ethnic groups they identified; endorsements of each category included White (75%), Hispanic (15%), Black (6%), Asian (6%), American Indian/Alaska Native (3%), Pacific Islander (0.7%), and other (2%). Analyses specific to child maltreatment and animal cruelty were limited to just men due to low endorsement of animal cruelty by women.	Cross-sectional; quantitative; retrospective reports of child abuse and animal cruelty behaviors	<b>Prevalence:</b> In the full sample, 21% reported having engaged in animal cruelty (36.8% of men vs. 7.2% of women). Among men who reported animal cruelty behaviors, those who had experienced a high frequency (i.e., above the 75th percentile) of sexual abuse were more likely to engage in animal cruelty (53%) in comparison to those who had not experienced high frequency of sexual abuse (32%). There was less of a difference in rates of animal cruelty based on high frequency (40%) and low frequency (35.7%) of unusual and/or extreme forms of punishment. <b>Other Results:</b> Exposure to frequent sexual abuse was associated with almost 3 times the odds of engagement in animal cruelty. After adjusting for the effects of empathy and attitudes towards animal treatment, sexual abuse was still significantly associated with greater odds of engagement in animal cruelty ( $OR = 2.5$ ).

Table 6. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
60	McClellan et al. (1995)	<p>This study reviewed the charts of 499 patients who had been treated between 1987 and 1992 at a treatment center in Washington state (U.S.) due to sexually inappropriate behaviors and who had a mental illness. All youth were between the ages of 5 and 18 years while in the treatment center. Youth sex and race/ethnicity was reported based on frequency of sexual abuse. Males were predominantly exposed to no sexual abuse (84%), isolated sexual abuse (61%), and intermittent sexual abuse (57%); whereas females were predominantly exposed to chronic sexual abuse (65%). Youth who had not experienced sexual abuse were predominantly Caucasian (78%), followed by African American (4%), Native American (2%), Asian (3%), Hispanic (2%), and Mixed race/Other race (12%). Similar patterns were found for youth who had experienced isolated, intermittent, and chronic sexual abuse: Caucasian (84%, 82%, 83%), African American (3%, 3%, 3%), Native American (3%, 2%, 5%), Asian (0%, 2%, 0%), Hispanic (0%, 0%, 1%), and Mixed race/Other race (10%, 12%, 9%), respectively.</p>	Cross-sectional; quantitative; chart review	<p><b>Other Results:</b> In this sample of youth with a serious mental illness, sexual abuse was associated with engagement in animal cruelty (<math>\beta = 0.60</math>, <math>OR = 1.82</math>); however, the chronicity of sexual abuse was not significantly associated with animal cruelty.</p>
48	McEwen et al. (2014)	<p>This study used the Environmental Risk Longitudinal Twin Study that collected baseline data from 1116 families in England and Wales with same-sex 5-year-old twins in 1999–2000. Therefore, the sample included 2232 youth (49% boys) who were all 5 years old at baseline. Follow-up data collection occurred when the youth were aged 7, 10, and 12. No information was provided regarding the youth's race/ethnicity.</p>	Longitudinal; quantitative; parental report	<p><b>Prevalence:</b> Animal cruelty occurred most commonly at age 5 (5.9%) and tapered off over time (3.6% at age 7, 1.5% at age 10, and 1.6% at age 12); 9.1% of youth were reported to have been cruel to animals at any age, while only 0.1% of the sample were reported to have engaged in animal cruelty at all four time points. Among youth who had engaged in animal cruelty, 43.6% had experienced maltreatment. Notably, by reversing the variables the rate of co-occurring child maltreatment and animal cruelty behaviors is dissimilar. Specifically, among children who had been maltreated by age 12, only 21.1% had engaged in animal cruelty.</p> <p><b>Other Results:</b> After adjusting for gender, DV exposure, and socioeconomic status, child maltreatment was significantly associated with engagement in animal cruelty (<math>OR = 2.89</math>).</p>

Table 6. Cont.

#	Author(s), Year of Publication	Study Population	Methodology	Main Outcomes
61	Wright and Hensley (2003)	This case study included 5 cases of serial murderers in the U.S. who had engaged in animal cruelty during childhood. All five serial murderers were male.	Case study	<b>Prevalence:</b> Of the five cases, four of the five detailed maltreatment (e.g., sexual abuse, physical abuse, humiliation by parents) that occurred during their childhood. All five cases involved childhood animal cruelty. Therefore, in this case study, 80% (4 of 5) included co-occurring childhood maltreatment and engagement in animal cruelty.

### 3. Results

#### 3.1. Description of Studies

Our initial search located 1454 articles (see Figure 1). After removing duplicates, we reviewed 779 articles based on the inclusion/exclusion criteria. We identified 61 articles for inclusion in this scoping review. An overview of studies that were included in each category of family violence is provided in Table 2 and a description of each study included is provided in Tables 3–6. The majority of studies providing information regarding rates of the co-occurrence of family violence and animal cruelty involved co-occurring IPV and animal cruelty ( $n = 48$ ), 20 studies included child maltreatment and animal cruelty, and no studies were found that discussed rates of concurrent elder abuse and animal cruelty (see Figure 2). Studies included various methodologies, including quantitative ( $n = 54$ ), qualitative ( $n = 9$ ), and mixed-methods designs ( $n = 5$ ). Information was collected from case/chart reviews ( $n = 7$ ) and multiple reporters (not mutually exclusive): Mothers exposed to IPV ( $n = 32$ ), youth ( $n = 11$ ), adults retrospectively ( $n = 4$ ), self-reported animal cruelty ( $n = 3$ ), general community samples ( $n = 4$ ), and reports by service providers (e.g., domestic violence shelter workers, child welfare caseworkers, and veterinarians;  $n = 7$ ). Adult participants ranged in age from 16–81 years,<sup>1</sup> and youth participants in the studies (youth reports, maternal reports, and chart review) ranged in age from 3 to 17 years. The racial/ethnic backgrounds of the samples are provided in more detail in Tables 3–6. The majority of samples were predominantly White and from the global North, although some U.S.-based studies included a sample that included a majority of minoritized racial/ethnic groups and/or an international sample (e.g., The Bahamas). The majority of studies (93.44%) relied on cross-sectional data.

#### 3.2. Intimate Partner Violence and Animal Cruelty

##### 3.2.1. Prevalence of Intimate Partner Violence and Animal Cruelty by Adults

Our review of the literature located 37 articles that included prevalence statistics (see Tables 2 and 3). Of those, 20 studies included samples of adult survivors of IPV who reported their exposure to animal cruelty during their relationship with their partner (Ascione 1997; Ascione et al. 2007; Barrett et al. 2018<sup>2</sup>; 2020<sup>2</sup>; Campbell et al. 2021; Collins et al. 2018<sup>3</sup>; Faver and Cavazos 2007; Faver and Strand 2003; Fitzgerald et al. 2019; Flynn 2000a, 2000b; Gallagher et al. 2008; Hartman et al. 2018<sup>3</sup>; Loring and Bolden-Hines 2004; McDonald et al. 2017<sup>3</sup>; Newberry 2017; Simmons and Lehmann 2007; Strand and Faver 2005; Tiplady et al. 2018; Volant et al. 2008); four studies included a community sample and specifically examined the co-occurring prevalence of IPV and animal cruelty (Fielding and Plumridge 2010; Fitzgerald et al. 2022; Riggs et al. 2021; Volant et al. 2008). Thirteen studies included prevalence rates of exposure to IPV and animal cruelty during childhood based on retrospective reports by adult samples (DeGue and DiLillo 2009), reports by youth (Hartman et al. 2018<sup>3</sup>; McDonald et al. 2015<sup>3</sup>, 2018b<sup>3</sup>), or reports by a parent on behalf of their child (Flynn 2000a; Gallagher et al. 2008; Hawkins et al. 2019<sup>3</sup>; Matijczak et al. 2020<sup>3</sup>; McDonald et al. 2017<sup>3</sup>, 2018a<sup>3</sup>, 2019<sup>3</sup>; Murphy et al. 2021<sup>3</sup>; Volant et al. 2008). The prevalence of IPV and animal cruelty based on the perpetrator's self-report was examined in three studies (Febres et al. 2012, 2014; Haden et al. 2018). Service providers, such as domestic violence shelters, provided prevalence rates in four studies (Ascione et al. 1997; Giesbrecht 2022; Green and Gullone 2005; Krienert et al. 2012), and one study included prevalence rates based on a case/chart review (Levitt et al. 2016).

Prevalence rates varied widely across studies. In the included studies, 3% to 89% of adult survivors of IPV reported their partner had perpetrated animal cruelty, such as threatening to hurt or kill their pet and/or actually hurting or killing their pet (Ascione 1997; Ascione et al. 2007; Barrett et al. 2018<sup>2</sup>; 2020<sup>2</sup>; Campbell et al. 2021; Collins et al. 2018<sup>3</sup>; Faver and Cavazos 2007; Faver and Strand 2003; Fitzgerald et al. 2019; Flynn 2000a, 2000b; Gallagher et al. 2008; Hartman et al. 2018<sup>3</sup>; Loring and Bolden-Hines 2004; McDonald et al. 2017<sup>3</sup>; Newberry 2017; Simmons and Lehmann 2007; Strand and Faver 2005; Tiplady et al. 2018; Volant et al. 2008). Further, among adult survivors of IPV, 7% to 11.1% reported

that *they* had perpetrated animal abuse (Ascione 1997; Ascione et al. 1997). Rates of IPV and animal cruelty by a partner tended to be lower in studies that included a community sample (i.e., a non-IPV specific sample; Fielding and Plumridge 2010; Fitzgerald et al. 2022; Riggs et al. 2021; Volant et al. 2008). For example, Volant et al. (2008) compared rates of animal cruelty in a sample recruited from domestic violence services and rates in a community sample. They found that while approximately half of the domestic violence sample reported animal cruelty (52.9%), no women in the community sample endorsed pet abuse and only 5.8% reported their partner threatened to harm their pet.

Similar differences in the prevalence of childhood exposure to both animal cruelty and IPV within IPV-specific and community samples were found. In nine studies, survivors of IPV reported whether their children were exposed to animal cruelty, and rates ranged from 25.0% to 57.1% (Flynn 2000a; Gallagher et al. 2008; Hawkins et al. 2019<sup>3</sup>; Matijczak et al. 2020<sup>3</sup>; McDonald et al. 2017<sup>3</sup>, 2018a<sup>3</sup>, 2019<sup>3</sup>; Murphy et al. 2021<sup>3</sup>; Volant et al. 2008). In contrast, adult retrospective reports in a sample of college students were much lower, as only 5% of students endorsed being exposed to both IPV and animal cruelty as a child (DeGue and DiLillo 2009). Perpetrators of IPV and animal cruelty, in contrast to survivors of IPV, tended to report lower rates of co-occurring IPV and animal cruelty, with 15% of females (Febres et al. 2012) and 38.1% to 52.4% of male perpetrators reporting both forms of violence (Febres et al. 2014; Haden et al. 2018). Similar to adult survivors of IPV, service providers such as domestic violence shelter staff and veterinarians provided a wide range of estimates (i.e., <1% to 85%) of the co-occurrence of IPV and animal cruelty (Ascione et al. 1997; Giesbrecht 2022; Green and Gullone 2005; Krienert et al. 2012).

### 3.2.2. Prevalence of IPV and Animal Cruelty by Youth

Within households characterized by IPV, 15 studies examined the prevalence of youth engagement in animal cruelty (see Tables 2 and 4). Of those, four studies included youth self-report (Ascione et al. 2007; Baldry 2003, 2005; Becker et al. 2004), nine were based on maternal reports (Ascione 1997; Ascione et al. 2003, 2007; Becker et al. 2004; Currie 2006; Flynn 2000b; McEwen et al. 2014; Tiplady et al. 2018; Volant et al. 2008), two studies contained rates based on the aggregate of both youth and their mother/caregiver reports (Hartman et al. 2019<sup>3</sup>; McDonald et al. 2018b<sup>3</sup>), one study was based on service-provider estimates (Krienert et al. 2012), and one study estimated prevalence based on a review of youth's psychiatric treatment charts (Duncan et al. 2005). Rates of animal cruelty by youth who had also been exposed to IPV ranged from 0.05% to 72% across the 15 studies included in this review. Prevalence rates based on maternal reports and youth self-reports are inconsistent. Mothers tended to report lower ranges of youth engagement in animal cruelty of 0.5% to 37.5%, whereas youth reported a wider range of rates of animal cruelty of 2.9% to 60.3%.

Several of the studies included in the review also provided more specific prevalence information based on comparison groups (Ascione et al. 2003, 2007; Baldry 2003, 2005; Becker et al. 2004; Currie 2006; Volant et al. 2008). For example, multiple studies examined the rates of animal cruelty between youth who had been exposed to IPV and those who had not. Across all studies and all forms of IPV (e.g., general IPV exposure, father-to-mother violence exposure, mother-to-father violence exposure), youth who had been exposed to IPV tended to be more likely to engage in animal cruelty (11.4%–60.3%) than youth not exposed to IPV (Ascione et al. 2003, 2007; Baldry 2003, 2005; Becker et al. 2004; Currie 2006; Volant et al. 2008).

### 3.2.3. Relations between IPV and Animal Cruelty by Adults

We found 26 studies that examined the relationship between IPV and adult-perpetrated animal cruelty (see Tables 2 and 3). Three studies examined correlations between animal cruelty and IPV (Barrett et al. 2020<sup>2</sup>; Febres et al. 2012, 2014); the findings were mixed. Febres et al. (2014) and Barrett et al. (2020)<sup>2</sup> both found that severe psychological abuse and minor and severe physical abuse were positively correlated with animal cruelty. Barrett



[et al. \(2020\)](#)<sup>2</sup> also found significant and positive correlations between severe sexual abuse, economic abuse, and animal cruelty. Additionally, although [Febres et al. \(2012\)](#) found that severe physical assault was significantly and positively correlated with animal abuse, they did not find that overall (i.e., minor and severe) psychological aggression, overall physical assault, or severe psychological aggression were correlated with animal cruelty.

Nine of the twenty-six studies included an examination of whether animal cruelty was associated with IPV ([Ascione et al. 2007](#); [DeGue and DiLillo 2009](#); [Febres et al. 2014](#); [Fitzgerald et al. 2022](#); [Hartman et al. 2018](#)<sup>3</sup>; [Hawkins et al. 2019](#)<sup>3</sup>; [Matijczak et al. 2020](#)<sup>3</sup>; [Murphy et al. 2021](#)<sup>3</sup>; [Volant et al. 2008](#)). [Ascione et al. \(2007\)](#) included reports by 121 women (101 IPV survivors receiving DV shelter services) and found that minor physical violence, verbal aggression, and the woman's level of education were associated with their partners threatening to hurt/kill pets, whereas only severe physical violence and belonging in the IPV survivor group were associated with their partner actually hurting/killing pets. [Fitzgerald et al. \(2022\)](#) also found significant associations between animal cruelty and IPV. After adjusting for various covariates (i.e., gender, age, household income, disability status, racial identity, and rural vs. urban location), they found that animal cruelty was significantly associated with a 38.6% increase in the odds of emotional abuse and a 7.5% increase in the likelihood of financial abuse. Similarly, [Volant et al. \(2008\)](#) found that IPV victims in Australia whose partner had threatened to harm their pets were five times more likely to belong to the IPV group than the community sample, adjusting for age, number of children, education level, and relationship status. [Hartman et al. \(2018\)](#)<sup>3</sup> examined relations between forms of IPV and whether the perpetrator had threatened to harm or actually harmed a pet. Adjusting for income, partner's education level, and the other forms of IPV, higher levels of psychological aggression were associated with greater odds of threats to harm pets ( $OR = 1.07$ ) and actual harm to pets ( $OR = 1.02$ ). The statistically significant association between psychological aggression and odds of actual harm to pets remained significant even after also adjusting for Hispanicity ( $OR = 1.07$ ).

In contrast to the findings that suggest that animal cruelty is positively associated with IPV, once [Hartman et al. \(2018\)](#)<sup>3</sup> added Hispanic status as a covariate (i.e., in addition to income, partner's education level, and other forms of IPV), the association between psychological aggression and threats to harm pets was no longer statistically significant. Additionally, adjusting for income, partner's education, Hispanic status, and other forms of IPV, physical aggression was associated with *lower* odds of actual harm to pets ( $OR = 0.89$ ). Partners who were Hispanic and Mexican-born were less likely to harm pets ( $OR = 0.26$ ) than non-Hispanic, U.S.-born partners. Studies by [Hawkins et al. \(2019\)](#)<sup>3</sup>, [Matijczak et al. \(2020\)](#)<sup>3</sup>, and [Murphy et al. \(2021\)](#)<sup>3</sup> with a sample of women recruited from domestic violence agencies in the U.S. also provide support that there is not a significant association between IPV and animal cruelty. Among retrospective reports by 860 college students, [DeGue and DiLillo \(2009\)](#) found that exposure to domestic violence in childhood was no longer significantly associated with the likelihood of witnessing and/or engaging in animal cruelty after adjusting for the effects of child maltreatment. [Febres et al. \(2014\)](#) also found that after controlling for the effects of antisocial personality disorder and alcohol use, animal cruelty was no longer associated with severe psychological aggression or physical assault.

Several studies also compared relations between IPV and animal cruelty between different groups ([Ascione et al. 2007](#); [Barrett et al. 2020](#)<sup>2</sup>; [Campbell et al. 2021](#); [Febres et al. 2012](#); [Fitzgerald et al. 2022](#); [Haden et al. 2018](#); [Riggs et al. 2021](#); [Simmons and Lehmann 2007](#)). [Ascione et al. \(2007\)](#) examined the likelihood of animal cruelty by women's abusive partners based on whether the women were exposed to violence or not. They found that exposure to physical violence (i.e., minor and/or severe) was associated with a greater likelihood of their partner threatening and/or hurting their pet in comparison to women who were not exposed to physical violence. This finding was true for both women who were recruited from the DV shelter services (threat: 55.9% vs. 16.7%, hurt: 56.5% vs. 16.7%) and for women recruited from the community (threat: 33.3% vs. 7.4%,

hurt: 8.7% vs. 3.2%). These differences were also found when comparing animal cruelty among victims of emotional abuse. Among a nationally representative sample of Canadian citizens, [Fitzgerald et al. \(2022\)](#) found that individuals who were emotionally abused were more likely to have experienced the abuse of their pet in comparison to those who had not experienced emotional abuse (86.67% vs. 13.42%). Similarly, [Campbell et al. \(2021\)](#) examined IPV incident reports and compared the experiences of IPV victims based on whether the alleged IPV perpetrator had a history of animal cruelty or not. They found that victims were more likely to have been victimized previously (although unreported; 80% vs. 60%), followed or spied on (70% vs. 33%), forced to have sex (26% vs. 8%), strangled (76% vs. 47%), controlled in terms of activities (84% vs. 55%), threatened with death (63% vs. 31%), and threatened with death to the victim and their children (70% vs. 33%) by the alleged IPV perpetrator when the perpetrator had a history of animal cruelty in comparison to IPV perpetrators with no history of animal cruelty.

Reversing the groupings, [Fitzgerald et al. \(2022\)](#) also found that individuals who had experienced the abuse of their pet were more likely to have had an abusive partner limit their contact with friends/family (52.38% vs. 4.12%), verbally abuse them (85% vs. 7.06%), financially abuse them (47.62% vs. 2.49%), threaten and/or harm their close friends/family (45% vs. 0.96%), and damage their belongings (60% vs. 1.98%). [Simmons and Lehmann \(2007\)](#) also found that women ( $n = 1283$ ) who received domestic violence shelter services in Texas between 1998 and 2002 and reported their partner had abused animals also reported higher scores across all IPV subscales (i.e., physical abuse, sexual abuse, isolation, minimization/denial, blaming, intimidation, threats, male privilege, emotional abuse, economic abuse). Significant differences in IPV scores were also found based on reports of animal cruelty engagement in childhood by 42 male inmates with a history of IPV ([Haden et al. 2018](#)). Inmates who reported engaging in animal cruelty in childhood also reported higher psychological aggression (21.53 vs. 1.18) and sexual coercion scores (5.73 vs. 2.59) in comparison to inmates who did not endorse animal cruelty in childhood. However, [Haden et al. \(2018\)](#) did not find significant differences in IPV scores for negotiation, physical aggression, severe sexual coercion, injury, or severe injury based on animal cruelty. A study by [Febres et al. \(2012\)](#) with 87 women recruited from a Batterer Intervention Program also found no significant differences in the frequency of IPV perpetration based on whether the participant endorsed animal cruelty perpetration or not. Similarly, in the only study included in this review that included a sample with diverse gender identities and sexual orientations, [Riggs et al. \(2021\)](#) did not find any significant differences in animal cruelty experiences and IPV by gender identity or sexual orientation.

Two studies also provide evidence that suggests the severity or level of animal cruelty may be associated with the severity of IPV. [Barrett et al. \(2020\)](#)<sup>2</sup> found that women whose pets suffered no or low levels of abuse experienced lower levels of severe psychological abuse, minor and severe physical abuse, and sexual abuse in comparison to women whose pets suffered severe animal abuse. Similarly, [Simmons and Lehmann \(2007\)](#) found that the level of animal abuse was significantly and positively associated with scores across all types of IPV.

Four qualitative studies and three quantitative studies provide additional information regarding how animal cruelty is used as an IPV tactic. Generally, victims ([Collins et al. 2018](#)<sup>3</sup>; [Fitzgerald et al. 2019](#); [Gallagher et al. 2008](#); [McDonald et al. 2019](#)<sup>3</sup>; [Newberry 2017](#); [Tiplady et al. 2018](#)) and IPV perpetrators ([Levitt et al. 2016](#)) both report that animal cruelty is used as a means of coercion, control, and/or retaliation within an IPV relationship. [Fitzgerald et al. \(2019\)](#) examined predictors of animal cruelty, adjusting for age, race, and type of IPV (e.g., psychological aggression, physical assault, sexual coercion). They found that exerting power and control over the victim, using animal cruelty as a means to upset the victim and/or their children, and premeditating the abuse of pets were significantly associated with animal cruelty, although significance varied across each model.

### 3.2.4. Relations between IPV Exposure and Youth Engagement in Animal Cruelty

Our search also resulted in five studies that examined relations between IPV and youth engagement in animal cruelty (see Tables 2 and 4). Baldry (2003, 2005) both examined associations between exposure to IPV and whether youth engaged in animal cruelty in Italy. In a sample of 1396 youth aged 9–17 years in Italy, youth who were exposed to IPV were almost twice as likely to be cruel to animals compared to their peers who were not exposed to IPV (Baldry 2003); in a sample of 532 elementary and middle school students, youth who were exposed to IPV were approximately three times as likely to engage in animal cruelty (Baldry 2005). However, the association between IPV exposure and animal cruelty behaviors was no longer statistically significant among elementary and middle school students after adjusting for other forms of violence, such as school victimization (Baldry 2005). Similarly, Duncan et al. (2005) found that engagement in animal cruelty was associated with increased odds of exposure to IPV ( $OR = 2.5$ ) in a sample of youth receiving psychiatric residential treatment in the U.S. These cross-sectional results were supported by a longitudinal, multi-generational study in the U.S. conducted by Knight et al. (2014). They found that parents' history of IPV perpetration was significantly associated with greater odds of youth engagement in animal cruelty ( $OR = 2.65$ ), adjusting for parent gender, parental history of animal cruelty, and child's gender. Males were also at higher risk of engaging in animal cruelty in comparison to females ( $OR = 10.94$ ). McEwen et al. (2014) found partially contradictory results using longitudinal data with 2232 youth. Similar to Knight et al. (2014), after adjusting for gender, maltreatment history, and socioeconomic status, gender (i.e., being a boy) was associated with a greater likelihood of animal cruelty ( $OR = 2.87$ ). However, unlike the other studies included in this section, IPV exposure was not significantly associated with engagement in animal cruelty in this sample (McEwen et al. 2014).

### 3.3. Child Maltreatment and Animal Cruelty

#### 3.3.1. Prevalence of Child Maltreatment and Animal Cruelty Perpetrated by Adults

Only five studies provided statistics regarding the frequency of co-occurring child maltreatment and animal cruelty by adult caregivers (see Tables 2 and 5). The rates reported in these five studies ranged from 0.5% to 15.4%. Only one study provided estimates based on self-report. Among a sample of U.S. college students, 13.3% retrospectively reported both experiencing maltreatment (i.e., sexual abuse, physical abuse, psychological abuse, neglect) and witnessing animal cruelty in their childhood (DeGue and DiLillo 2009). The other four studies provided estimates based on service provider reports; these estimates varied. For example, both a Canadian and U.S. sample of child welfare workers reported that animal cruelty occurred in 1 to 25% of their child protective services investigations (Girardi and Pozzulo 2012; Montminy-Danna 2007). Zilney and Zilney (2005) examined cross-reporting of child maltreatment and animal cruelty between child protective services and the Humane Society in Ontario, Canada. Of the cases in which child maltreatment (i.e., neglect, substance abuse, domestic violence, physical abuse, youth behavior problems) and animal cruelty (i.e., neglect, physical abuse) were alleged, they found that only 0.9% of cases were substantiated for both child maltreatment and animal cruelty. Similarly, veterinarians in Australia reported a low number of cases in which they had knowledge of or suspected co-occurring animal and human abuse (5.9%). They estimated that of those cases, 15.4% involved child maltreatment and 25% involved both IPV and child maltreatment (Green and Gullone 2005).

#### 3.3.2. Prevalence of Child Maltreatment and Engagement in Animal Cruelty by Youth

In addition to adult perpetration of child maltreatment and animal cruelty, 16 studies examined child maltreatment and youth engagement in animal cruelty (see Tables 2 and 6). Ten of these studies provided statistics regarding the prevalence of the co-occurrence of child maltreatment and youth cruelty to animals (see Table 2). Across these samples, <1% to 80% of youth experienced child maltreatment and engaged in animal cruelty as reported

by their parents ( $n = 2$ ; [Ascione et al. 2003](#); [McEwen et al. 2014](#)), service providers ( $n = 1$ ; [Girardi and Pozzulo 2012](#)), youth self-reports ( $n = 1$ ; [Baldry 2005](#)), retrospective self-reports ( $n = 2$ ; [DeGue and DiLillo 2009](#); [Henry 2006](#)), and case/chart reviews ( $n = 4$ ; [Boat et al. 2011](#); [Bright et al. 2018](#); [Duncan et al. 2005](#); [Wright and Hensley 2003](#)). Rates of co-occurring child maltreatment and youth engagement in animal cruelty were lowest when estimated by service providers (1–15%), parental reports (3.97–36%), and retrospective self-reports (2.67–19.5%). Case/chart reviews estimated the widest range of prevalence rates (<1% to 80%); the one youth self-report study found that approximately 50% of youth in the sample who were exposed to child maltreatment also engaged in animal cruelty.

Sociodemographic differences have also been found for these estimates. Generally, male youth exposed to child maltreatment were more likely to engage in animal cruelty in comparison to female youth (e.g., 36% vs. 17.1%; [Ascione et al. 2003](#)). For example, male youth were more likely to report maltreatment and animal cruelty than females ([Baldry 2003, 2005](#); [Bright et al. 2018](#); [DeGue and DiLillo 2009](#); [Henry 2006](#)). White youth were more likely to engage in animal cruelty than Black youth based on juvenile delinquency records ([Bright et al. 2018](#)).

### 3.3.3. Relations between Child Maltreatment and Animal Cruelty Perpetrated by Adults

We found only two articles that examined the relationship between child maltreatment and animal cruelty perpetration by adult caregivers (see Table 2). [Atwood-Harvey \(2007\)](#) provided a content analysis of their personal and other published accounts of co-occurring child maltreatment and animal cruelty. They found that children reported the use of animal cruelty (i.e., threats to harm and/or actual harm to pets) by perpetrators of child maltreatment as a coercive technique. [Atwood-Harvey \(2007\)](#) also found that maltreated youth described different reactions to this pet abuse. Some youth reported feeling fear and an inability to stop the abuse, while others reported intervening to prevent the abuse of their pet, placing themselves at increased risk for further victimization. [DeGue and DiLillo \(2009\)](#) analyzed retrospective reports of co-occurring child maltreatment and animal cruelty in a sample of college students. Bivariate results in this study suggest that individuals who had experienced child maltreatment (and those exposed to both child maltreatment and IPV) were more likely to also report witnessing/engaging in animal cruelty in comparison to those who had not been exposed to maltreatment. However, in regression analyses that controlled for exposure to IPV and engagement in animal cruelty, only emotional abuse remained significantly associated with witnessing animal cruelty in childhood ( $OR = 2.25$ ). Neither sexual abuse, physical abuse, nor neglect were significantly associated with the odds of witnessing animal cruelty after adjusting for IPV exposure and engagement in animal cruelty.

### 3.3.4. Relations between Child Maltreatment and Youth Engagement in Animal Cruelty

In contrast to the limited evidence regarding the relationship between child maltreatment and animal cruelty by adult caregivers, thirteen studies in this scoping review examined relations between child maltreatment and animal cruelty by youth (see Table 2). Bivariate results from these studies provide support that child maltreatment is associated with animal cruelty behaviors. For example, [Baldry \(2005\)](#) found that Italian youth in elementary and middle school exposed to verbal abuse or physical abuse were twice as likely to be cruel to animals; sexual abuse was associated with approximately twice the odds of engaging in animal cruelty in a clinical sample ([McClellan et al. 1995](#)). [Duncan et al. \(2005\)](#) reported similar odds based on a review of psychiatric records, finding that youth who engaged in animal cruelty were approximately twice as likely to have experienced physical abuse and sexual abuse in comparison to youth without a history of animal cruelty. Slightly lower odds ([Baglivio et al. 2017](#)) and higher odds have been found ([Boat et al. 2011](#); [Henry 2006](#)). Based on a review of juvenile records in Florida, [Baglivio et al. \(2017\)](#) found that child welfare placement ( $OR = 1.1$ ), physical abuse ( $OR = 1.3$ ), sexual abuse ( $OR = 1.8$ ), and neglect ( $OR = 1.4$ ) were all significantly associated with animal cruelty



issues or charges (Baglivio et al. 2017). Sexual abuse victimization in Boat et al. (2011) and the frequency of sexual abuse in Henry (2006) were both associated with almost three times the odds of engaging in animal cruelty based on a review of psychiatric records and retrospective reports in a college student sample, respectively.

Using chi-square analysis, DeGue and DiLillo (2009) found that college students who reported experiencing child maltreatment were more likely to also report engaging in animal cruelty in comparison to their peers who had not experienced child maltreatment. Fleming et al. (2002) found that among a sample of juvenile justice-involved youth, youth who had engaged in sexual activity with a non-human animal reported more emotional abuse, emotional neglect, and sexual victimization experiences than youth who had sexually offended against a human and youth who had committed non-sexual offenses. However, no significant differences were found for physical abuse or sexual abuse. In a similar population of adult male inmates, Browne et al. (2017) found that inmates' retrospective reports of mental abuse and physical abuse were positively correlated with recurrent animal cruelty behaviors during childhood.

In addition to bivariate analyses, seven studies conducted regression analyses, adjusting for the effects of various covariates (Baldry 2005; Bright et al. 2018; Browne et al. 2017; DeGue and DiLillo 2009; Flynn 1999; Henry 2006; McEwen et al. 2014). Adjusting for sex and race/ethnicity, Bright et al. (2018) found that juvenile justice-involved youth who were exposed to physical abuse ( $OR = 4.65$ ), sexual abuse ( $OR = 4.40$ ), physical neglect ( $OR = 3.52$ ), emotional abuse ( $OR = 2.29$ ), and/or emotional neglect ( $OR = 2.19$ ) were more likely to be cruel to animals than juvenile justice-involved youth who had not experienced child maltreatment. Henry (2006) found that sexual abuse was associated with greater odds of engaging in animal cruelty based on retrospective reports of college students, even after adjusting for empathy and attitudes towards animal treatment ( $OR = 2.5$ ). Based on the retrospective reports of male inmates, physical abuse, but not mental abuse, was significantly associated with the frequency of animal cruelty in childhood after adjusting for race, education, urbanicity (urban vs. rural), age when animal cruelty was first witnessed, frequency of witnessing animal cruelty, and who the animal cruelty perpetrator was (e.g., parent, sibling, other family member; Browne et al. 2017). More generally, McEwen et al. (2014) found that youth who had experienced child maltreatment were almost three times as likely to engage in animal cruelty in comparison to youth without maltreatment exposure, after adjusting for gender, IPV exposure, and socioeconomic status.

Only two studies examined differences in the relationship between child maltreatment and animal cruelty by sex. Baldry (2005) found sex differences in bivariate relationships between the type of child maltreatment and engagement in animal cruelty. Specifically, paternal physical abuse was associated with double the odds of engagement in animal cruelty by girls but was not significantly associated with animal cruelty for boys. For boys only, maternal verbal abuse was associated with two times the odds of animal cruelty. In regression analyses, adjusting for the effects of age, parental IPV exposure, and school bullying/victimization, neither verbal nor physical abuse were significantly associated with engagement in animal cruelty for boys. Among girls, however, paternal verbal abuse remained significantly associated with higher odds of animal cruelty, and paternal physical abuse was associated with lower odds of girls engaging in animal cruelty. Additionally, Bright et al. (2018) reviewed juvenile justice records to examine whether sex, race, age at first offense, and income significantly moderated the association between maltreatment and youth engagement in animal cruelty. Neither sex, race, nor age at first offense were statistically significant moderators; however, they found evidence of an interaction effect of income. Specifically, among youth who experienced physical neglect, lower income was associated with an increased likelihood of youth animal cruelty; however, there was no change in the likelihood of youth engaging in animal cruelty for youth who were not exposed to physical neglect by income.

Although the majority of studies provide evidence that child maltreatment and engagement in animal cruelty are associated, a few studies did not find a significant relationship

between maltreatment and animal cruelty (Becker et al. 2004; Boat et al. 2011; DeGue and DiLillo 2009; Flynn 1999). Flynn (1999) examined the relationship between child maltreatment and engagement in animal cruelty in childhood based on the retrospective reports of male college students. After adjusting for the effects of corporal punishment, IPV, and father's education level, child maltreatment was not significantly associated with animal cruelty. Other studies did not find a significant association based on specific types of child maltreatment. For example, Becker et al. (2004) did not find a significant relationship between sexual abuse and engagement in animal cruelty in a sample of youth ages 6–12 years old. One reason for this non-significant relationship may be that sexual abuse victims were primarily female, whereas the majority of youth who were cruel to animals were male. Based on the retrospective recall of college students, DeGue and DiLillo (2009) did not find that any type of child maltreatment (i.e., sexual, physical, emotional abuse; neglect) was associated with engagement in animal cruelty, adjusting for IPV exposure and witnessing animal cruelty. Similarly, Boat et al. (2011) found that physical abuse, emotional abuse, and neglect were not significantly associated with having engaged in animal cruelty; however, they found that sexual abuse *was* significantly associated with animal cruelty.

### 3.4. Elder Abuse and Animal Cruelty

Our review of the literature did not result in any articles that specifically reported the prevalence of co-occurring elder abuse and animal cruelty within the same household or family. This is an area of family violence research that is absent in the context of peer-reviewed literature on animal cruelty.

## 4. Discussion

The purpose of this scoping review was two-fold: (a) To determine the prevalence of the co-occurrence of family violence and animal cruelty based on these studies and (b) to determine what empirical literature exists to support this co-occurrence. We found 61 empirical articles that included either the examination of relations between family violence and animal cruelty and/or prevalence rates of the co-occurrence. Articles included quantitative, qualitative, and mixed-methods designs, as well as both cross-sectional and longitudinal studies. Specifically, the majority of articles (i.e.,  $n = 48$ ; 78.69%) focused on co-occurring IPV and animal cruelty; 20 articles (32.79%) examined both child maltreatment and animal cruelty. We found no articles regarding concomitant elder abuse and animal cruelty.

Although there was general support for the co-occurrence of family violence and animal cruelty in the articles reviewed, the results are somewhat mixed. Rates of co-occurring family violence and animal cruelty varied, ranging from <1% to 89%. Specifically, rates ranged from 3% to 89% for IPV and animal cruelty, 0.5% to 15.4% for child maltreatment and animal cruelty, <1% to 72% for IPV and youth engagement in animal cruelty, and <1 to 80% for child maltreatment and youth engagement in animal cruelty. This suggests that although there is some support that family violence and animal cruelty co-occur frequently, there is also evidence that the presence of one form of violence (i.e., either family violence or animal cruelty) does not necessarily indicate the presence of the other. Therefore, the results of our scoping review pertaining to the empirical evidence on the prevalence of “the link” suggest that caution should be taken in asserting that “the link” exists within each form of family violence and promoting cross-reporting animal cruelty and family violence (e.g., child maltreatment). Indeed, there was a notable limited number of empirical studies examining the co-occurrence of child maltreatment and animal cruelty and no studies specific to elder abuse and animal cruelty. The inconsistent rates found in these studies suggest that there may be other more clinically relevant factors unaccounted for that may influence the perpetration of family violence and/or animal cruelty.

Similar to the variation in prevalence rates, the findings regarding associations between family violence and animal cruelty also were mixed. Although there was some evidence that family violence was significantly associated with increased odds of animal cruelty (and vice

versa), other findings suggest that there was not a significant relationship between family violence and animal cruelty. This was most notable when adjusting for sociodemographic factors. Among the studies available that examined multivariate relations between family violence and animal cruelty, the most prominent and frequently included sociodemographic factors included binary sex or gender, race/ethnicity, age, other types of violence exposure, and education level. For example, there is some evidence that race/ethnicity may play a role in the prevalence and co-occurrence of IPV and animal cruelty (Hartman et al. 2018)<sup>3</sup>, as well as child maltreatment and youth engagement in animal cruelty (Bright et al. 2018). Income also was a significant moderator of the relationship between exposure to physical neglect and youth engagement in animal cruelty. The interaction between physical neglect exposure and low income was associated with higher risk for youth engaging in animal cruelty (Bright et al. 2018). Despite evidence that the relationship between family violence and animal cruelty varies, few studies included in this scoping review conducted moderation analyses to identify potential factors that may exacerbate or attenuate the relationship between family violence and animal cruelty (e.g., Bright et al. 2018), and no studies conducted a mediation analysis to examine the processes through which family violence is linked to animal cruelty. To gain a better understanding of “the link” between family violence and animal cruelty, it is important for researchers to continue to test for whom, under what conditions, and through what mechanisms family violence is associated with animal cruelty.

#### 4.1. Limitations of the Available Literature

Despite the breadth of information collected about “the link”, the studies included in this scoping review have several limitations that highlight areas for further research regarding the co-occurrence of family violence and animal cruelty. First, although there were a few studies that included samples primarily composed of Hispanic participants ( $n = 4$ ; (Faver and Cavazos 2007; Hartman et al. 2018<sup>3</sup>; Hartman et al. 2019<sup>3</sup>; Hawkins et al. 2019<sup>3</sup>) and Black participants ( $n = 2$ ; Bright et al. 2018; Fleming et al. 2002), the majority of studies included predominantly White/non-Hispanic participants ( $n = 31$ ; (Ascione et al. 2007; Baglivio et al. 2017; Barrett et al. 2018<sup>2</sup>, 2020<sup>2</sup>; Becker et al. 2004; Boat et al. 2011; Browne et al. 2017; Campbell et al. 2021; Collins et al. 2018<sup>3</sup>; DeGue and DiLillo 2009; Duncan et al. 2005; Faver and Strand 2003; Febres et al. 2012, 2014; Fitzgerald et al. 2019, 2022; Flynn 1999, 2000a, 2000b; Haden et al. 2018; Henry 2006; Knight et al. 2014; Levitt et al. 2016; Loring and Bolden-Hines 2004; McDonald et al. 2015<sup>3</sup>, 2018a<sup>3</sup>, 2018b<sup>3</sup>, 2019<sup>3</sup>; Murphy et al. 2021<sup>3</sup>; Riggs et al. 2021; Strand and Faver 2005). Second, of the 61 studies reviewed, only four included information about diverse sexual orientations and gender identities (Barrett et al. 2018<sup>2</sup>, 2020<sup>2</sup>; Fitzgerald et al. 2019; Riggs et al. 2021). Indeed, the majority of the studies relied on binary sex/gender (i.e., male/female). With regard to sample composition, eleven studies included samples obtained from the same study and/or dataset. Barrett et al. (2018, 2020)<sup>2</sup> included samples from the same dataset. The other nine studies' samples all were derived from the same study (Collins et al. 2018<sup>3</sup>; Hartman et al. 2018<sup>3</sup>; Hartman et al. 2019<sup>3</sup>; Hawkins et al. 2019<sup>3</sup>; Matijczak et al. 2020<sup>3</sup>; McDonald et al. 2017<sup>3</sup>, 2018a<sup>3</sup>, 2018b<sup>3</sup>, 2019<sup>3</sup>; Murphy et al. 2021<sup>3</sup>).

Fourth, the majority of studies included in this review recruited IPV victims from domestic violence services ( $n = 25$ ; Ascione 1997; Barrett et al. 2018<sup>2</sup>, 2020<sup>2</sup>; Becker et al. 2004; Collins et al. 2018<sup>3</sup>; Faver and Cavazos 2007; Faver and Strand 2003; Fitzgerald et al. 2019; Flynn 2000a, 2000b; Gallagher et al. 2008; Hartman et al. 2019<sup>3</sup>, 2018<sup>3</sup>; Hawkins et al. 2019<sup>3</sup>; Loring and Bolden-Hines 2004; Matijczak et al. 2020<sup>3</sup>; McDonald et al. 2017<sup>3</sup>, 2018a<sup>3</sup>, 2018b<sup>3</sup>, 2019<sup>3</sup>; Murphy et al. 2021<sup>3</sup>; Simmons and Lehmann 2007; Strand and Faver 2005; Tiplady et al. 2018; Volant et al. 2008). Thus, the majority of studies relied on self-reports by IPV victims and their reports about their child's experiences of family violence and animal cruelty ( $n = 22$ ; Ascione 1997; Barrett et al. 2018<sup>2</sup>, 2020<sup>2</sup>; Campbell et al. 2021; Collins et al. 2018<sup>3</sup>; Duncan et al. 2005; Faver and Cavazos 2007; Faver and Strand 2003; Fitzgerald et al. 2019; Flynn 2000a, 2000b; Gallagher et al. 2008; Hawkins et al. 2019<sup>3</sup>; Loring and



Bolden-Hines 2004; Matijczak et al. 2020<sup>3</sup>; McDonald et al. 2017, 2018a<sup>3</sup>, 2019<sup>3</sup>; Murphy et al. 2021<sup>3</sup>; Simmons and Lehmann 2007; Strand and Faver 2005; Tiplady et al. 2018). There were few studies that included other types of reporters (e.g., youth self-reports, adult retrospective reports;  $n = 14$ ; Baldry 2003, 2005; Browne et al. 2017; DeGue and DiLillo 2009; Fielding and Plumridge 2010; Fitzgerald et al. 2022; Fleming et al. 2002; Flynn 1999; Henry 2006; Knight et al. 2014; McDonald et al. 2015<sup>3</sup>; McEwen et al. 2014; Newberry 2017; Riggs et al. 2021) and few studies included both maternal- and youth-reports or comparison groups between family violence victims and community samples ( $n = 8$ ; Ascione et al. 2003, 2007; Becker et al. 2004; Hartman et al. 2018<sup>3</sup>; Hartman et al. 2019<sup>3</sup>; McDonald et al. 2018a<sup>3</sup>, 2018b<sup>3</sup>; Volant et al. 2008). Additionally, sample sizes among most studies are a limitation, particularly for external validity and generalizability. Sample sizes for quantitative studies were as low as 23 participants (Gallagher et al. 2008), and there were only a few studies that used large, nationally representative samples (Fitzgerald et al. 2022; Knight et al. 2014; McEwen et al. 2014). Further, due to the few nationally representative samples, the majority of studies used convenience sampling methods rather than probability-based sampling. The majority of studies ( $n = 42/61$ , 68.85%) were also conducted with samples in the United States. This may limit the external validity of the study results if individuals who choose to participate in the studies are different from individuals who did not participate and may limit the generalizability of the results to families in the United States.

Variation in methodology and measurement of animal cruelty across studies also limit the interpretation and comparison of studies. For example, there was variability in the use of “animal cruelty,” “animal abuse,” “animal maltreatment,” “threats to harm/kill pet,” and “actual harm/killing of pet” in the studies reviewed. However, very few studies operationalized or defined the term they chose to use, which makes comparing the results of studies challenging. There was also lack of clarity in some studies regarding who the perpetrator of family violence and/or animal cruelty was and if they were the same person or not. We excluded studies if we could not ascertain whether the adult perpetrator of family violence was the same person who perpetrated animal cruelty (e.g., Yamazaki 2010). Other studies were excluded from the review and/or prevalence section due to only reporting individual rates of family violence and animal cruelty instead of rates of their co-occurrence (e.g., Baglivio et al. 2017; Becker et al. 2004; Flynn 1999); additional studies were excluded if the authors did not specify the timeframe of family violence and animal cruelty exposure or if the authors used a lifetime assessment of exposure to family violence and/or animal cruelty (e.g., Flynn 1999; Vaughn et al. 2011) because we were unable to ascertain whether family violence and animal cruelty co-occurred.

#### 4.2. Future Directions

The results of our scoping review provide several areas for further research regarding “the link.” There is a need for larger, more representative samples that include under-represented and marginalized groups in HAI research. Specifically, it is important that future research include diverse racial/ethnic and sexual and gender minorities and consider other sociodemographic factors that may influence risk for family violence and/or animal cruelty (e.g., socioeconomic status, disability). This may require larger sample sizes and/or different sampling methodologies (i.e., not convenience sampling). It is critical to improve the generalizability of the results regarding “the link” to better understand for whom and under what circumstances concomitant family violence and animal cruelty is a risk. With regard to generalizability, future researchers should also continue to build evidence across all forms of family violence. There was only one study that collected data from participants regarding their exposure to co-occurring child maltreatment and animal cruelty during their childhood (DeGue and DiLillo 2009) and no studies that examined co-occurring elder abuse and animal cruelty. Empirical studies in these areas are critical to build an evidence base regarding “the link.”

Additionally, it is important that future HAI researchers consistently assess animal cruelty across studies and define their use of animal cruelty in each study. Whether

animal cruelty should encompass both threats and actual harm to a pet or whether these should be assessed as separate constructs is an important distinction that future researchers should explore. Further, it is important that future researchers include questions that specify when exposure to family violence and/or animal cruelty occurred (i.e., during childhood/adolescence vs. adulthood) and who the perpetrator(s) of family violence and/or animal cruelty was (e.g., parent/caregiver, sibling, peer). These distinctions may be important to understanding how “the link” influences later outcomes, such as mental health, and potential risk and protective factors for “the link.”

#### *4.3. Strengths and Limitations of the Current Study*

The current study had several strengths and limitations through which our results should be interpreted. One strength is that we reported the results of our scoping review following the guidelines outlined by PRISMA-ScR (Tricco et al. 2018). We searched multiple databases, used several search term variations, and limited our use of exclusion criteria to locate a wide array of potential English-language articles for screening. The scope of our study also focused on multiple forms of family violence instead of being limited to just one form of family violence and considered the co-occurrence of family violence and both adult and youth cruelty to animals.

We also acknowledge some limitations to our scoping review. First, we limited our literature search to academic databases and only included peer-reviewed articles written in English. There may be compelling additional evidence of “the link” within the reference lists of the articles located in our search, books, gray literature (e.g., reports, briefs), unpublished theses and dissertations, and peer-reviewed publications in languages other than English (e.g., Gullone 2012; Jegatheesan et al. 2020; McPhedran 2009). Second, although the initial screening of articles for inclusion/exclusion and data charting was conducted by research assistants and verified by the first author, the finalization of articles and data charting was conducted by the first author with consultation with co-authors, as necessary. This process may have introduced error. Additionally, given our use of scoping review procedures, we did not include an assessment of the quality of the studies, as recommended for systematic reviews and meta-analyses. Therefore, the information we charted and incorporated into our review regarding the methodology, sample, and findings from each study should be interpreted with this in mind.

### **5. Conclusions**

The results of this scoping review suggest that evidence of “the link” is mixed. Prevalence rates for co-occurring family violence and animal cruelty were as low as <1% in some studies, while in other studies, rates were as high as >80%. Similarly, results regarding relations between family violence and animal cruelty varied. There was some evidence that family violence was significantly associated with animal cruelty (or vice versa); however, researchers also found this association to be non-significant. Non-significant associations between family violence and animal cruelty mostly occurred when controlling for sociodemographic factors in the analysis. This suggests that there may be other clinically relevant factors (e.g., sociodemographic factors) that explain the co-occurrence of family violence and animal cruelty. There was also notably less evidence for co-occurring child maltreatment and animal cruelty and no evidence of elder abuse and animal cruelty. Thus, caution should be taken regarding assertions of “the link” and the promotion of cross-reporting, as cross-reporting may increase risk for system involvement (e.g., child welfare system, criminal justice system) for already marginalized and at-risk families. Future research is needed to better understand the co-occurrence of family violence and animal cruelty, and the factors that exacerbate or attenuate risk for violence within the context of the family.

**Supplementary Materials:** The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/socsci11110514/s1>, Table S1: PRISMA extension for Scoping Reviews Checklist.

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## Notes

- <sup>1</sup> Some of the IPV studies included samples of women in which some women were less than 18 years of age. They were included in the same sample as adults as they were all receiving domestic violence shelter services.
- <sup>2</sup> The articles designated with a superscript 2 all used the same dataset (different than the dataset associated with superscript 3).
- <sup>3</sup> The articles designated with a superscript 3 all used the same dataset (different than the dataset associated with superscript 2).

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