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Keri Burchfield

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ARTICLE

Reporting animal crime: Individual, family, and community influences

Keri Burchfield

Northern Illinois University, DeKalb, United States

ABSTRACT

In this study, I borrow from Bronfenbrenner's ecological model to examine motivations to report animal crime. I argue that such motivations are related to individual traits, early socialization, and attitudes toward animals, as well as the neighborhood context of social control. Using survey data from 494 respondents, I analyze the effects of demographic and personality characteristics, attitudinal variables, and neighborhood informal social control on one's own reporting of animal crime, as well as their perceptions that neighbors would report such crime. Results indicated that individuals are more likely to report animal crime if they have previously witnessed animal abuse, possess attitudes that promote animal violence as just as significant as human violence, and support punitive measures for animal abusers. Neighborhood informal social control exerted a negative effect on animal crime reporting, so respondents who live in neighborhoods higher in informal social control are less likely to report animal crime. But neighborhood informal social control had a positive effect on perceptions of neighbor's reporting of animal crime. Implications for theory, future research, practice, and policy are discussed.

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Social media has allowed citizens to document crimes as they happen. Many recent criminal events that have become touchstones in the nation's troubled history between the police and underserved citizens were caught on camera, shared on social media, and then tried in the court of public opinion. In May 2020, one such case involved a woman walking her dog off-leash and being stopped by a man for the infraction. The situation escalated, with the woman calling 911 to report that a black man was threatening her life, as she holds her dog by the collar and he struggles for air. The woman was quickly identified and publicly shamed, losing her job and her dog in the process. However, the case has sparked outrage as yet another instance of a white person calling the cops on a black person and yet, seemingly generating more sympathy for the dog than the innocent black man wrongfully accused. And so we are reminded of a central feature of animal abuse and its reporting – when animal abuse co-occurs with human abuse, which it often does, it is generally presented as only a side note to the human crime, with animals rarely also seen as legitimate victims. Thus, reports, arrests, and convictions of animal crime are relatively rare, compared to rates of occurrence.

Establishing those rates of occurrence is difficult. Criminologists working in the field of animal cruelty generally have to rely on one or two fairly inadequate options when it comes to understanding the nature of animal crime: reports from clinical or social service samples, or reports made to the police. Still, little is known about the true figure of animal cruelty, and what factors encourage or inhibit some people to report such crimes. Given the documented links between animal crime and human violence, as well as a general call from the human service and animal welfare communities to

CONTACT Keri Burchfield kburchfield@niu.edu Sociology, Northern Illinois University, DeKalb, 60115-2828, United States

facilitate reporting of such crimes, it is surprising that there are so few studies of features that influence the reporting of animal cruelty (for a notable exception, see Taylor and Signal 2006).

In this study, I utilize a multi-dimensional approach to examine the motivations to report animal cruelty. I argue that such motivations are related to individual traits, early socialization, and attitudes toward animals, as well as the neighborhood context of social control.

Background

Although there are few reliable national estimates to document trends in animal abuse in the United States, a variety of sources corroborate the assertion that it is common. Survey studies of college students indicate that about half of these students had perpetrated or witnessed some kind of animal abuse during childhood (Flynn 1999; Henry 2004; Miller and Knutson 1997). The only nationally representative survey to measure animal cruelty with one item asking about lifetime incidence of cruelty to animals, found 1.8% of adults had admitted to such acts (Vaughn et al. 2009). Extrapolating to the U.S. population, that is almost 6 million people. Finally, in 2016, the FBI started tracking animal cruelty using its National Incident Based Reporting System (NIBRS). In 2016, law enforcement agencies participating in NIBRS reported 1100 instances of animal cruelty; in 2017, that number more than doubled to 3200, or one for every 33,000 people.

A wide body of psychological research over the past several decades has examined the roots of animal cruelty, with a specific focus on predictors of childhood animal abuse (see Ascione 2005). Additional work has sought to disentangle the links between childhood animal abuse and later adult interpersonal violence. Assuming that animal abuse is not rare or isolated, there are likely many situations in which an individual witnesses the cruelty. Accordingly, several studies have examined the relationship between witnessing animal cruelty and later perpetrating it, specifically for young children and adolescents within family and peer groups (Baldry 2003; Gullone and Robertson 2008; Thompson and Gullone 2006). Social learning theory may explain such relationships, with exposure to aggression, in the form of witnessing such behaviors by primary role models, leading to the belief that aggression is an available solution to a perceived problem (Baldry 2003; Shahinfar, Kupersmidt, and Matza 2001). The role of social learning theory and emphasis on early childhood socialization experiences highlights the context of animal cruelty as a social event that occurs within families and peer groups. Children are exposed to and learn attitudes about the value and welfare of animals from friends and family. Inevitably, some of those attitudes translate into animal abuse. However, little is known about what factors influence some individuals to report, rather than replicate, the abuse.

First, societal anthropocentrism contributes to the belief that animal abuse is trivial, or at least secondary in importance to human violence. This perspective is reflected in the lack of clear guidance to animal welfare professionals, as well as the general public, as to when and how to report animal abuse. The infrastructure surrounding animal cruelty and animal crimes varies widely; in some jurisdictions, the enforcement of animal welfare laws is handled by local police departments, in others it is left to animal control officers working directly for an animal control agency. These animal control officers may have full police powers, or only limited authority which would preclude arrests and the seizure of animals. The vagaries in our animal welfare system certainly contribute to the perception that animal abuse is not and should not be taken seriously. In Arluke's (2006) ethnographic study of the meaning of animal abuse, interviews with animal control officers revealed the ways in which they are demeaned as no more than "dogcatchers" and how their experiences with those who report what they perceive to be animal cruelty or neglect reify the ways in which animal abuse is trivialized.

Even veterinarians, often on the frontlines of identifying animal abuse, are not mandated to report such abuse in all states. In one survey study examining enforcement of animal cruelty legislation in Michigan, it was reported that only 27% of veterinarians had ever reported animal cruelty and only 30% had ever testified, despite 88% reporting that they had treated suspected victims of animal cruelty in the past (Stolt, Johnson-Ifearulundu, and Kaneene 1997). In another study, Alleyne, Sienauskaite, and Ford (2019) found that only one-third of 176 UK-based veterinarians surveyed had ever suspected

animal abuse, and 46% of those had reported the abuse to authorities. Perceived self-efficacy, or the confidence in recognizing and reporting animal abuse, was significantly related to the likelihood of reporting. The unlikelihood of veterinarians to report animal abuse is particularly troubling, given that animal control directors and prosecutors surveyed in the aforementioned Michigan study stated that the cooperation of a veterinarian was essential to the successful investigation and prosecution of cases of animal cruelty (Stolt, Johnson-Ifearulundu, and Kaneene 1997).

If reporting is problematic even for individuals tasked with protecting animals, one can imagine how it might be for ordinary citizens faced with an incident of animal abuse. However, few studies have addressed this issue. Three nationally representative surveys conducted in 2003 and 2004 assessed various attitudes and experiences with animals and animal welfare (Lockwood 2005). Two were Internet-based and conducted for the Humane Society of the United States. These surveys revealed 13 and 21% of respondents had witnessed animal abuse in the past year; of those, 53 and 72% had reported the abuse. And in a telephone survey conducted by research firm Penn Schoen and Berland, 14% of the respondents had witnessed animal abuse, with 60% reporting it. Perhaps not surprisingly, those who have companion animals and donate to animal welfare causes were more likely to report animal cruelty. Also, women and those over 65 years of age were more likely to report (Lockwood 2005).

In a 2006 telephone survey of Queensland, Australian residents, respondents were asked about their willingness to report family violence involving an animal (Taylor and Signal 2006). Results indicated that only gender was significant, with women more willing to report violence against animals. In addition, those who believe family violence is linked to animal harm had higher tendencies to report. However, those who answered that they do not know where to report such violence had significantly lower tendencies to report.

So, more information is needed about what motivates individuals to report such crimes, and whether motivations arise from individual traits, socialization experiences, and attitudes about animals, or the neighborhood context. I argue that the factors that influence the *reporting* of animal crime will be similar to those that influence the *act* of animal crime because they both have to do with perceptions of animals and their worth. Following Ascione's (1999) lead, I will be examining factors that influence the reporting of animal cruelty using a multi-dimensional, ecological framework. As first articulated by Bronfenbrenner and Morris (2006: 793), ecological theory explains child development as a "phenomenon of continuity and change in the biopsychological characteristics of human beings, both as individuals and as groups across multiple, nested environments." This approach has been applied to explain, among many other things, community, and family violence (see, for example, DaViera and Roy 2020; Rose 2018), recognizing the interplay of nested contexts including individual relationships, societal institutions, and cultural belief systems.

In a 1999 chapter summarizing research regarding the link between animal abuse and human violence, Ascione argued that animal welfare is an important component of the ecological framework by examining the ways in which animals are symbiotic members of our families, communities, and the wider society. He devotes particular attention to the interdependence of these contexts, discussing the dangerous consequences of inaction at any level. For example, failure to report animal cruelty within the home may preclude children from receiving necessary mental health treatment, while failure to provide effective interventions or appropriate punishments at the law enforcement or judicial level reinforces the notion that animal abuse, and by extension, animals, are not worthy of our attention. One of the implications of Ascione's application of Bronfenbrenner's work is that it is a critique of the long-held assumption that animal abuse leads directly to human violence. Indeed, there may be many pathways between the witnessing and perpetration of animal abuse and future interpersonal violence. One of those pathways would certainly involve familial or official intervention in the form of reporting.

In the only study to apply Bronfenbrenner's ecological model to the question of animal cruelty, Jegatheesan et al. (2020) utilized four case studies to demonstrate the relevance of this approach to the link between animal cruelty and family violence. In each of the four cases, the authors describe the

ways in which an individual's immediate social environment interrelates with the local neighborhood and institutional supports including veterinarians, animal control, and social services. Importantly, cultural beliefs about violence, the absence of social supports, failure of animal welfare agencies to investigate and report cases of animal cruelty, and a lack of cross-reporting between animal control, child welfare and law enforcement agencies are suggested to undermine effective interventions in reducing both animal and human violence.

It is worth also briefly discussing Agnew's (1998) social-psychological theory of animal abuse. In the same tradition as Bronfenbrenner's ecological model, Agnew's (1998) is multi-dimensional, with multiple pathways depicting factors believed to directly and indirectly lead to animal abuse. Drawing heavily on strain, social learning, and social control theory, Agnew argues that animal abuse is influenced by individual beliefs and attitudes about animal abuse, experiences with socialization and social control, and one's position in the social structure. In one of two recent tests of Agnew's theory, Mowen and Boman (2020) found mixed support for the theory; however, results indicated that race, individual traits of inferiority and impulsivity, moral beliefs, early-onset offending, school suspensions, and attachment to school were related to reports of past animal abuse. Hughes, Antonaccio, and Botchkovar (2020) tested the model in two cities and Russia and Ukraine, and found that low self-control, beliefs justifying animal abuse, and peer socialization were associated with an increased likelihood of animal abuse, especially for males. Thus, these tests of Agnew's theory supports the idea that animal abuse is influenced by a variety of factors across individual, community, and social structural dimensions.

In this study, I extend the logical framework of Bronfenbrenner's ecological theory to understand motivations to report animal cruelty. Specifically, I examine individual demographic and personality traits that might affect empathy and concern for animal welfare; early socialization including attitudes about and experiences with animals, particularly within the family; and neighborhood perceptions of social control as they relate to expectations to report or intervene in animal cruelty. In the following section, I summarize research on these individual, family, and community factors that may influence reporting of animal crime.

At the individual level, I argue that certain demographic characteristics and personality traits influence the likelihood of reporting of animal cruelty. As mentioned previously, only one study has examined the direct effects of these variables on animal crime reporting, finding that women are more likely to report violence against animals (Taylor and Signal 2006). However, other studies have examined the effects of age, race, and gender on attitudes toward animals, whose findings may then be extrapolated to the likelihood of reporting animal cruelty (Driscoll 1992; Herzog, Betchart, and Pittman 1991; Stephen 1988; Taylor and Signal 2006; Vollum, Longmire, and Buffington-Vollum 2004). Gender exerts the most consistent effect on animal attitudes, with women demonstrating more positive attitudes toward animals. The effects of age on attitudes toward animals are more complicated and may depend on the specific animal-related behaviors examined. Younger people typically report more positive attitudes toward animals overall, while older individuals express attitudes supporting the practical use of animals. However, some studies of animal attitudes and animal cruelty have reported negative attitudes among younger people, particularly those with other risk factors for animal cruelty (see Kavanagh, Signal, and Taylor 2013). Studies examining the relationship between race and animal attitudes suggest that blacks express more concern about animal treatment than whites, perhaps due to a sense of shared oppression (Kendall, Lobao, and Sharp 2006).

In addition to these demographic characteristics, prior research suggests that certain personality traits influence attitudes toward animals, and by extension, reporting of animal crime. Some of these studies have examined the link between maladaptive personality traits, like psychopathy and narcissism, and animal-related attitudes (Carroll et al. 2020; Kavanagh, Signal, and Taylor 2013). However, studies of personality traits and animal attitudes generally focus on the positive relationship between empathy and concern for animal welfare (Erlanger and Tsytsarev 2012;

Furnham, McManus, and Scott 2003; Miele et al. 1993; Paul 2000; Taylor and Signal 2005; Thompson and Gullone 2008).

Moving beyond these individual characteristics, a variety of factors related to socialization, particularly within the family, are predicted to influence one's likelihood to report animal crime. These include early childhood experiences and attitudes related to animals, and, much as Bronfenbrenner suggests, are conceptually distinct, but interrelated to individual traits like gender and race, or personality.

Many studies have examined the important role that family companion animals play in child development, socialization, and attitudes about animals (Sussman 2016). In fact, in most homes with companion animals, they ARE family (McConnell et al. 2017). As discussed previously, empathy is thought to be an important personality trait fostered by exposure to animals, so these studies have often focused on the relationship between early childhood experiences with companion animals and empathy toward other animals and humans (Ascione 2005). Overwhelming, research also indicates other positive effects of companion animals in the home, in terms of facilitating self-esteem, a sense of responsibility for others, and overall well-being (for a review, see Purewal et al. 2017). These effects are even shown to persist over time, particularly among dog owners, with studies indicating that positive experiences with animals in childhood affects later attachment to companion animals and more positive attitudes toward animals (Daly and Morton 2006; Paul and Serpell 1993; Raupp 1999). In one study specifically examining the development of punitive attitudes toward animal abuse, Vollum, Longmire, and Buffington-Vollum (2004) found that respondents with companion animals in their household reported greater concern about animal cruelty as a crime, and supported harsher punishments than those without companion animals.

So, if positive experiences with animals in childhood and into adulthood can have lasting effects on attitudes about animals, we could also surmise the opposite to be true. In studies of animal abuse among families, results suggest that early witnessing of animal abuse is positively related to the later perpetration of animal abuse, as well as negative attitudes about animals (Baldry 2003; Henry 2004). These effects hold true for when children witness parents, peers, relatives, or siblings abuse an animal; witnessing a stranger abuse an animal is not associated with one's own commission of animal abuse (Thompson and Gullone 2006). This finding is consistent with the tenets of social learning theory, suggesting that deviant behavior is more impactful when perpetrated by someone with whom the witness can relate. In a novel ethnographic study of peer effects on intervention in animal cruelty, Arluke (2012) examined adolescent norms preventing such intervention. None of the participants reported the violence they witnessed to parents or authorities, citing normalization of the abuse as "dirty play," a fear of being labeled a tattletale, and feelings of isolation and a lack of support for intervention. Gender played a role in these dynamics, with young males less likely to intervene in acts of animal abuse than females.

Finally, the neighborhood context is an important site of human development, so it is also worth considering the ways in which experiences with animals in the neighborhood might shape proclivities to report animal crime. Although there is little research that examines the positive roles companion animals may play in local communities, Wood et al. (2007) found that companion animal ownership was associated with perceptions of neighborhood friendliness, civic engagement, and sense of community. This is likely because companion animals are "social lubricants" who provide opportunities for social interaction, connection, and support (Garrity and Stallones 1998; Messent 1983). The facilitative effect of companion animals in the neighborhood may be impacted by the perceived friendliness of the animal; just as a friendly dog may encourage community interaction and integration, a dog perceived to be vicious will have precisely the opposite effect (Hurn 2012). Thus, experiences with companion animals in the neighborhood are argued to have an effect on the reporting of animal crime which may be contingent on whether those experiences are positive or negative.

Beyond specific experiences with animals in the community, the local neighborhood also provides a context for exposure to attitudes and behaviors related to crime and misbehavior in general (see Sampson, Morenoff, and Gannon-Rowley 2002). It is argued that this context would also influence one's likelihood to report animal crime. Studies of neighborhood effects have found that social ties and informal social control positively affect how likely local residents are to intervene and report crimes, as well as how likely they are to perceive their neighbors as willing to do so (Sampson, Raudenbush, and Earls 1997; Warner 2014). Thus, it is expected that local informal social would have a positive effect on the reporting of animal crime. However, in neighborhoods low in social control, which would likely also exhibit high crime rates, crime, and violence may become normative, animal cruelty trivialized, and reporting of animal crime unlikely (Burchfield 2016). In one study of companion animals in Chicago communities, it was found that neighborhoods with high rates of crime and poverty also report the highest number of calls for stray animals, animal bites, animal cruelty, and animal crime arrests, suggesting that reporting is possible, even in a context which indicates disregard for animal welfare (Fischer Lauren et al. 2010).

The preceding review has summarized literature that has relevance for understanding motivations to report animal crime. First, I briefly discussed the occurrence of animal cruelty, the likelihood of witnessing it, and thus the prevalence of situations in which the reporting of animal crime is possible. Next, I considered institutional factors that may inhibit the reporting of animal crime and what little is known about why and when animal control officers, veterinarians, and ordinary citizens report it. Finally, inspired by Bronfenbrenner's ecological theory, I reviewed individual traits, socialization experiences, and neighborhood characteristics that might influence the reporting of animal crime. In this study then, I will utilize survey data to analyze a variety of factors thought to influence one's own reporting of animal crime, as well as their perceptions that neighbors would report such crime.

Method

Data

The data for this study were obtained from an Internet-based survey distributed through SurveyMonkey in Fall 2014. The survey received IRB approval from NIU's Office of Research Compliance with Protocol #HS14-0323. Completion of the survey indicated acknowledgment of consent. The survey consisted of 60 individual questions and scales broadly examining issues related to attitudes about animal welfare and cruelty with a particular focus on experiences with and perceptions of animal cruelty and crime. Participant recruitment was conducted through a convenience sample of sociology classes at a large Midwestern regional university and the author's social networks, including Facebook. After deleting 53 cases for missing data, the final sample for analyses was 494 cases.

Survey instrument and measures

The survey incorporated items suggested by recent theoretical and empirical literature, as well as items directly adapted from previous studies of animal cruelty (Herzog, Betchart, and Pittman 1991; Vollum, Longmire, and Buffington-Vollum 2004) and studies about neighborhood social capital and social control (Earls and Visher 1997). For this study, variables were constructed to assess correlates of animal abuse reporting. *Animal Abuse Reporting* is based on a yes/no question asking respondents if they have reported to anyone (i.e., police, neighbor, friend, neighborhood watch program) that an individual was doing something illegal and/or suspicious with an animal. *Neighbor Reporting* is based on a five-point Likert-scale (very unlikely to very likely) question asking respondents about their perceptions of the likelihood that a neighbor would report to anyone that an individual was doing something illegal and/or suspicious with an animal. *Witness* is based on a yes/no question asking if respondents have ever seen anyone intentionally or carelessly

inflict pain or suffering on an animal. *Animal Attitudes* were assessed with Hal Herzog's Animal Attitude Scale, which consists of 29 items that respondents rate on a Likert-scale (strongly agree to strongly disagree). Sample items include "I do not think that there is anything wrong with using animals in medical research," "It is morally wrong to hunt wild animals just for sport," and "I would probably continue to use a product that I liked even though I know that its development caused pain to laboratory animals." Alpha for this scale was 0.91. *Empathy* was measured with the 29-item Interpersonal Reactivity Index (Davis 1980), a multidimensional assessment of empathy. Respondents were rated items on a 5-point Likert-scale (does not describe me well to describes me very well). Sample items include "I often have tender, concerned feelings for people less fortunate than me," "I try to look at everybody's side of a disagreement before I make a decision," and "Being in a tense emotional situation scares me." Alpha for this scale was 0.80. Attitudes about *Animal Violence* were assessed with a 5-point Likert scale (strongly agree to strongly disagree) question asking respondents if they believe animal violence is as significant as human violence. *Type of Punishment* assessed respondent's attitudes about the appropriate response to a variety of forms of animal abuse and neglect. Respondents were asked whether a person should receive "no punishment," "no future pet ownership," "probation or a fine," or "jail or prison time" for actions like slapping or kicking a pet, failing to provide food or water to a pet, or working a farm animal until they can no longer stand. Alpha for this scale was 0.91.

Informal social control was measured by a 4-item Likert-scale (very unlikely to very likely). Respondents were asked about the likelihood that their neighbors would do something about 1) children skipping school and hanging out on a street corner, 2) children spray painting graffiti on a local building, 3) children showing disrespect to an adult, and 4) a fight breaking out in front of a neighborhood house. Alpha for this scale was 0.82.

Finally, several demographic variables were also included for Gender, Race, Age (in years), Education, Employment Status, Student, Parent, and Companion Animal Owner.

Analyses

This study was primarily intended to understand animal abuse reporting, using a theoretical framework that examines this relationship from a variety of dimensions. Analyses included descriptive statistics of the key-dependent and explanatory variables. Further, given past theory and research suggesting the importance of companion animals ownership for animal-based attitudes, t-tests were conducted comparing relevant variables by companion animal owner versus non-companion animal owner. Finally, two regression analyses were performed, one logistic regression analysis examining predictors of one's own reporting of animal abuse, and one OLS regression examining predictors of perceptions of a neighbor's reporting of animal abuse.

Findings

Descriptive results

Table 1 presents descriptive statistics for the key variables including demographics of the sample and their experiences with animals and animal abuse. Generally, respondents tended to be female (68%), white (66%), with no children (87%), with companion animals (60%), full-time students (52%), have at least some college (75%). Further, 34% responded that they ever witnessed animal abuse, and only 8% ever reported animal abuse. The mean age of the sample was 26 years of age. Mean scores for the *Animal Attitudes* scale, attitudes about *Animal Violence*, and *Type of Punishment* generally indicate concern for animals and their abuse. The mean for *Animal Attitudes* was 3.51, for Animal Violence 3.87, and for *Type of Punishment* 3.11. The mean for

Table 1. Descriptive statistics.

Gender			
	Female	336	68.02
	Male	158	31.98
Race			
	White	324	65.59
	Black or African-American	94	19.03
	Latinx	48	9.72
	Other	28	5.67
Parent			
	Yes	64	12.96
	No	430	87.04
Companion Animal Owner			
	Yes	296	59.92
	No	198	40.08
Highest Degree Completed			
	High School Diploma	251	50.81
	Associate Degree	125	25.30
	Bachelor's Degree	62	12.55
	Graduate Degree	56	11.34
Employment Status			
	Employed	199	40.28
	Not employed	29	5.87
	Full-time Student	258	52.23
	Retired	8	1.62
Witnessed Animal Abuse			
	Yes	169	34.21
	No	325	65.79
Animal Abuse Reporting			
	Yes	43	8.70
	No	451	91.30
		Mean	*Standard Deviation*
Age		26.31	11.17
Animal Attitudes		3.51	0.68
Empathy		3.84	0.69
Animal Violence		3.87	1.08
Type of Punishment		3.11	0.50
Neighbor Reporting		2.84	1.13
Neighborhood Informal Social Control		3.38	0.93
TOTAL		494	100.00

Empathy was 3.84. Finally, the mean of perceptions of *Neighbor Reporting* was 2.84, and neighborhood *Informal Social Control* was 3.38.

Table 2 presents t-tests comparing companion animal owners to non-companion animal owners across the range of variables. Significant differences were found for most of the variables, with companion animal owners more likely to be white, parents, non-students, with a college degree, and employed. Further, and in line with prior research, companion animal owners were also more likely to have reported animal abuse, more likely to perceive their neighbors as willing to do so, and have higher scores on the *Animal Attitudes, Empathy, Type of Punishment*, and *Informal Social Control* scales and on the *Animal Violence* item.

Regression results

Logistic and ordinary least squares regression models were estimated predicting respondents' reporting of animal abuse, and their perceptions of a neighbor's likelihood of reporting animal abuse. Each analysis was comprised of two models; the first model included all individual and socialization variables, while the second model adds the neighborhood informal social control variable.

Table 2. Companion animal owners vs. non-companion animal owners means.

	Companion Animal Owners	Non-Companion Animal Owners	
Male	0.29	0.36	
White	0.79	0.45	***
Black	0.09	0.33	***
Latinx	0.06	0.15	**
Parent	0.17	0.08	**
Student	0.42	0.68	***
College Degree	0.6	0.33	***
Employed	0.51	0.23	***
Witnessed Animal Abuse	0.36	0.31	
Animal Abuse Reporting	0.11	0.06	*
Neighbor Reporting	2.93	2.7	*
Animal Attitudes	3.63	3.34	***
Empathy	3.92	3.72	**
Animal Violence	4	3.68	**
Type of Punishment	3.17	3.03	**
Neighborhood Informal Social Control	3.48	3.23	**

* p <.05
** p < .01
*** p < .001

Table 3. Logistic regression predicting one's reporting of animal abuse.

	Model 1			Model 2		
	Odds Ratio		Standard Error	Odds Ratio		Standard Error
Intercept	0.00		1.88	0.01		1.95
Male	0.57		0.47	0.57		0.48
Black	1.60		0.50	1.36		0.51
Latinx	0.68		0.81	0.58		0.82
Age	1.00		0.02	1.01		0.02
Parent	2.13		0.53	1.90		0.54
Student	0.72		0.42	0.83		0.43
Companion Animal Owner	1.87		0.44	2.06		0.45
Witnessed Animal Abuse	3.03	**	0.36	2.99	**	0.37
Animal Attitudes	0.83		0.35	0.75		0.35
Empathy	0.58		0.28	0.64		0.29
Animal Violence	1.75	*	0.26	1.73	*	0.26
Type of Punishment	2.72	*	0.49	2.95	*	0.49
Neighborhood Informal Social Control				0.58	**	0.18

* p < .05
** p < .01
*** p < .001

The first set of logistic regression models predicting respondents' reporting of animal abuse is shown in Table 3. Results reveal significant positive effects of the witnessing of animal abuse (odds ratio = 3.03), respondents' attitudes about animal violence (odds ratio = 1.75) and their beliefs about punishments for animal abuse (odds ratio = 2.72). The addition of neighborhood informal social control indicates an inverse effect of informal social control on one's own reporting of animal abuse (odds ratio = 0.58), with no change in the effects of the other variables. Thus, an increase in respondents' perceptions of local informal social control decreases the odds of reporting of animal abuse by about 42%. Somewhat surprisingly, companion animal ownership did not exert a significant positive effect on animal abuse reporting. And further analyses (results not presented) which examined the effect of dog ownership versus cat ownership on animal abuse reporting also did not yield significant results.

Table 4 shows the ordinary least squares regression model predicting respondents' perceptions of a neighbor's likelihood of reporting animal abuse. Results indicate that only age has a positive effect on perceptions of a neighbor's reporting of animal abuse. However, once neighborhood

Table 4. OLS regression predicting perceived likelihood of neighbor reporting animal abuse.

	Model 1			Model 2		
	Beta		Standard Error	Beta		Standard Error
Intercept	-		0.48			0.49
Male	0.04		0.12	0.03		0.11
Black	−0.06		0.15	−0.02		0.14
Latinx	−0.05		0.19	−0.01		0.18
Age	0.21	*	0.01	0.18	*	0.01
Parent	0.04		0.19	0.04		0.18
Student	0.06		0.12	0.03		0.12
Companion Animal Owner	0.05		0.12	0.03		0.11
Witnessed Animal Abuse	−0.08		0.11	−0.07		0.11
Animal Attitudes	−0.11		0.10	−0.08		0.10
Empathy	0.05		0.08	0.01		0.08
Animal Violence	0.01		0.06	0.02		0.06
Type of Punishment	0.10		0.13	0.09		0.12
Neighborhood Informal Social Control				0.30	***	0.05

* $p < .05$
** $p < .01$
*** $p < .001$

informal social control is added to the model, it is highly significant at 0.30, indicating that respondents who view their neighborhoods as higher in informal social control are also likely to perceive their neighbors as willing to report animal abuse.

Discussion

This research has attempted to shed light on an overlooked element of a topic that has received increased criminological attention in recent years – namely, the reporting of animal crime. Although many studies have documented the causes and consequences of animal cruelty, few have sought to examine the factors that influence the likelihood of reporting such abuse. Drawing inspiration from Bronfenbrenner's ecological model which emphasizes the interrelationships between individual, family socialization, and community variables, results indicated that individuals are more likely to report animal crime if they have previously witnessed animal abuse, possess attitudes that promote animal violence as just as significant as human violence, and support punitive measures for animal abusers. Interestingly, individual demographic characteristics, companion animal ownership, and empathy did not influence reporting. Also, neighborhood informal social control exerted a negative effect on animal crime reporting; so, respondents who live in neighborhoods higher in informal social control are less likely to report animal crime. This could suggest a kind of "free rider" problem whereby individuals rely too heavily on their neighbors to report animal cruelty because they perceive these neighbors as ready and willing to intervene in local problems. Conversely, in neighborhoods lower in informal social control, respondents are more likely to report animal crime, thus perhaps picking up the slack from their disengaged neighbors.

Related to that point, in terms of what influences perceptions of neighbors' reporting of animal crime, the strongest effect was for informal social control. This makes sense, of course, but is nonetheless informative in terms of emphasizing the relevance of the neighborhood context for reporting animal cruelty. Referring back to Bronfenbrenner's ecological model and considering the various dimensions that influence animal crime reporting, the most consistent effects are for the one variable at the neighborhood level – even more than individual characteristics, attitudes about animals, prior witnessing of animal abuse, or companion animal ownership.

These findings provide several directions for future inquiry. More specificity is needed about the nature of animal crime reporting. Implications from this and other research suggest that more is needed to be known about: 1) the ways in which reporting might be different for familial animal abuse versus that committed by a stranger; 2) what types of animals and animal crimes are most likely to be

reported; and 3) to whom it is being reported. Also, there are still many questions about the consequences of witnessing animal abuse and NOT reporting it. Perhaps these individuals, as social learning and prior research would suggest, internalize the perspective that violence is acceptable and engage in it themselves. On the other hand, others have suggested that the feelings of witnessing animal abuse and being unable to intervene can cause significant emotional trauma for the witnesses, as well as the animals (Arluke 2012; Flynn 2000).

The trauma that results from witnessing animal abuse highlights the ways in which Bronfenbrenner's model can be useful beyond theory and measurement. The ecological model, by emphasizing the interrelationships of individual, family, and neighborhood context, is well suited to addressing one of the most pressing issues in animal and human welfare – the need for collaboration between social service, law enforcement, and animal control agencies (Ascione and Shapiro 2009; Long and Kulkarni 2013; Zilney and Zilney 2009). Owing heavily to findings from the "Link" which documents an association between animal cruelty and other forms of violence, early intervention and reporting of animal cruelty may have important effects on reducing other crimes. In fact, scholars have labeled animal abuse as a marker for physical violence against humans, as it is often more visible than these other forms of violence (DeGue and David 2009). Thus, it is suggested that cross-reporting, which would involve training and coordination between social service personnel and human service personnel, would be an important step in reducing animal cruelty and preventing its escalation to violence against humans and other crimes, within the family, as well as in the community. But such efforts should not rely solely on formal interventions to address the problem. Humane education for children should provide information about the of consequences of animal abuse and what to do when it is encountered, recognizing that going to a friend or family member is not always a viable option, especially when the abuse is in the home. Community classes for new companion animal owners, at local shelters or pet stores, could shed light on the problems of animal abuse in the community, the laws against it, and available agencies, including animal control, veterinary clinics, child protective services, homeless and domestic violence shelters, and law enforcement departments, that might be available to offer support.

I must acknowledge the limitations to this study. First, it was a convenience sample that drew heavily from students and people who work or volunteer in animal welfare. With regard to the latter, selection bias possibly skewed the results in favor of greater concern for animal well-being. Thus, future studies of this topic should consider broader samples. Further, the questions did not link specific instances of witnessing animal abuse to actions following from them. And finally, to truly examine the implications of Bronfenbrenner's model, longitudinal data are needed to examine the reciprocal relationships of individual, family, and community contexts on the reporting of animal crime.

Conclusion

Over the past several decades, concern for our companion animals has blossomed into a multi-billion dollar industry. However, like so many things in the United States, access to companion animal services is inequitable, with veterinarians, dog parks, boarding, and training facilities often located in more affluent areas of cities (Fischer Lauren et al. 2010). By distributing companion animal resources more equitably, working to create "pet friendly" cities, and thus encouraging responsible pet ownership across all segments of society, communities may benefit from the sense of community, social interaction, and social capital that companion animals provide (Wood, Giles-Corti, and Bulsara 2005; Wood et al. 2017). Companion animals not only provide social capital – but the prevention and awareness of animal crime, with reporting and intervention when necessary, may enhance feelings of self-efficacy, facilitate collective efficacy to the extent that local residents feel that they are effective in addressing local social problems, and ultimately reduce more serious forms of violence that are often related to animal abuse.

Notes on contributor

Keri Burchfield, PhD, is a professor of Sociology at Northern Illinois University. Her research interests include communities and crime, specifically investigating the effects of neighborhood structure and community organization on crime prevention and control. Her current projects examine the sociological consequences of the human-animal bond, as well as the link between animal violence and human crime in urban communities.

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