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Animal maltreatment as a risk marker of more frequent and severe forms of intimate partner violence

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Abstract

Although there is a growing body of literature documenting the co-occurrence of animal abuse and intimate partner violence (IPV), only a few studies have examined the relationship between animal maltreatment, types of IPV and abuse severity. The results of those studies have been inconclusive and in some cases even contradictory. The current study contributes new findings to that specific segment of the literature and sheds some light on the inconsistent findings in previous studies. Data were gathered from 86 abused women receiving services from domestic violence shelters across Canada via a structured survey about pet abuse and the level and types of IPV perpetrated by abusive partners. Type and severity of IPV was measured using subscales of the Revised Conflict Tactics Scale (CTS-2) and the Checklist of Controlling Behavior (CCB). Animal maltreatment was measured using the Partners' Treatment of Animals Scale (PTAS). Participants were divided into three groups: women who did not have pets during their abusive relationship (n = 31), women who had pets and reported little or no animal maltreatment (n = 21), and women who had pets and reported frequent or severe animal maltreatment (n = 34). Examining within-group variations in experiences of IPV and pet abuse using a series of one-way between groups analysis of variance (ANOVA) tests, this study provides evidence to support the conclusion that women who report that their partner mistreated their pets are themselves at significantly greater risk of more frequent and severe forms of IPV, most specifically

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Keywords: Animal abuse, intimate partner violence, help-seeking

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There is a growing body of literature exploring the co-occurrence of intimate partner violence (IPV) and animal maltreatment. This literature has documented significant negative impacts on the animals involved, including severe injuries and death; negative emotional and psychological impacts of this abuse on women who have formed close bonds with their companion animals have also been detailed (see Fitzgerald 2005, 2007; Flynn 2000a, 2000b). Further, there is evidence that concern for the well-being of their companion animals can impact the help-seeking behavior and subsequent actions of abused women. First of all, sizable proportions of women surveyed report delaying leaving their abusive partner due to concern for the pet, as the vast majority of shelters do not allow women to bring their pets with them (Ascione, 1998; Ascione, et al. 2007; Carlisle-Frank, et al., 2004; Faver & Strand, 2003; Flynn, 2000a; Strand & Faver, 2005; Volant, Johnson, Gullone, & Coleman, 2008). Second, abused women report leaving shelters to go home to check on pets they had to leave behind, as well as considering returning to abusive relationships because their pets are still with their abusers (Fitzgerald 2005, 2007). Their safety is at risk in all of these scenarios.

This risk could be even greater if animal maltreatment were more likely to be associated with frequent and severe forms of IPV, as staying in or returning to this type of abusive relationship would be even more perilous. We examine this possibility in this study utilizing a

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sample of women in shelters for abused women from across Canada. Before delving into the findings we provide a review of the literature on the co-occurrence of animal abuse and IPV, with particular attention paid to studies that have examined the relationship between animal maltreatment and the types and severity of IPV, followed by the research questions addressed in this study and the methods used to do so. The paper closes with a discussion of the findings in the context of the broader literature and recommendations for further research.

The Relationship between Animal Maltreatment and Intimate Partner Violence

Data pointing to the frequent co-occurrence of animal maltreatment and IPV have been collected from staff in shelters for abused women, women receiving services from these facilities, and less frequently, from samples of men who have been identified as being abusive. Most of this research has taken place within the national context of the US; increasingly, however, such studies are being conducted in other countries. We focus our review here on the first two segments of the literature as they are most relevant to the current study.

Samples of domestic violence shelter staff studied overwhelmingly report that animal maltreatment by their abusive partners is an issue of concern for survivors of IPV. Ascione, Weber and Wood (1997) surveyed 48 shelters across the United States asking staff whether their clients described incidents of companion animal abuse; 85% of shelters responded that their clients did indeed talk about the abuse of pets in their relationship. In a more recent study, also in the US, Krienert and colleagues (2012) surveyed 767 domestic violence shelters and found that 94% of staff reported that the clients they work with spoke about incidents of animal abuse.

Every one of the 109 shelters and transition houses Stevenson (2009) surveyed in Canada were aware of pets being included in the violence aimed at the female partners in a relationship.

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Further, as part of a larger project exploring the co-occurrence of animal maltreatment and IPV in Canada, the current authors found that of the 116 shelter staff members they surveyed from 9 different provinces in the country, 74% reported that they were aware of abused women who had not come to the shelter because they could not bring their pets with them (reference removed for blind review).

By far the bulk of the evidence of the co-occurrence of animal maltreatment and IPV has been obtained through interviews with and surveys of female survivors of IPV, most commonly those residing in shelters for abused women. These studies indicate that threats against or actual harm of companion animals is present in a substantial proportion of abusive relationships (see for example, Allen, Gallagher, & Jones, 2006; Ascione et al., 2007; Carlisle-Frank, Frank, & Nielsen, 2004; DeGue & DiLillo, 2009; Faver & Strand, 2003; Fitzgerald, 2005; Simmons & Lehmann, 2007; Volant, et al., 2008). Research in the US indicates that the proportion of women who report that their abusive partner also mistreated the pets in the home ranges from 25% (Simmons & Lehmann, 2007) to 86% (Strand & Faver, 2005). Recent studies in other countries, including Ireland (Allen, et al., 2006), Australia (Volant, et al., 2008), and the Bahamas (Fielding 2010) have also found high rates of coexistence between animal abuse and IPV.

Research on the subject in Canada is sparse. In one of the few studies, McIntosh (2001) surveyed 65 women who had pets and entered two shelters for abused women in Calgary, Alberta and found that 56% reported threats and/or animal abuse perpetrated by their partner, and 47% reported their abuser had injured and/or killed a pet. In response to a survey of 111 abused women in shelters in Ontario conducted by the Ontario Society for the Prevention of Cruelty to Animals in 2000, 42% of the respondents indicated their partner had threatened their pets and

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44% reported their partner abused or killed their pets (Daniell, 2001). Another study in Ontario found that 73% of 26 women interviewed reported their abuser had threatened and/or mistreated companion animals in the home (Fitzgerald, 2005, 2007).

Utilizing samples of women accessed through shelters for abused women (and less frequently through support groups), these early studies documented high levels of co-occurrence between animal abuse and IPV. However, it was unclear what the baseline level of animal abuse was in the community beyond the small amount that came to the attention of the police. That is, how common is animal maltreatment in households without IPV? Ascione et al. (2007) and Volant et al. (2008) addressed this issue through comparison of reports of animal abuse among women in shelters and among women in the community who did not report violence within the home. In the Volant et al. (2008) study, 53% of women in the IPV group reported abuse of their pets by their partners, whereas no one in the IPV-free comparison group reported any pet abuse, and only 6% of the comparison group reported threats to their animals by their partners compared to 46% among the IPV group. Ascione et al. (2007) found that 52.5% of the IPV group reported their pets had been threatened, compared to 12.5% in their community comparison group, and while actual harm or killing of pets was reported by 54% of abused women, only 5% of the women with no history of abuse reported harm to their pets by their partner. Through their comparative analyses, both Ascione, et al. (2007) and Volant, et al. (2008) provide strong evidence that animal abuse is more common in relationships with IPV, at least in the US.

Moving forward, researchers have sought to gain more nuanced information about what the presence of animal maltreatment means in the context of IPV; for instance, what is the relationship between animal abuse and specific types of IPV (i.e., emotional, physical, and

Animal maltreatment as a risk marker of severe IPV (sexual abuse), is it related to the severity of IPV, and how does it impact help-seeking among abused women? Utilizing the Battered Partner Shelter Survey (BPSS) they developed, Ascione and colleagues (2007) explored the connection between pet abuse and type and severity of IPV as measured by the Conflict Tactics Scale (CTS; Straus, 1979). Both women in a domestic violence shelter as well as women in the community who had not experienced violence completed the CTS (Ascione, et al., 2007). They found that the strongest predictors of threatening behavior against pets were the CTS minor physical violence and verbal aggression subscales. Actual harm to pets was predicted by shelter group membership and the CTS severe physical violence subscale.

Although they did not use the CTS to measure IPV and instead asked four directed questions (e.g. has your partner ever physically abused you), Simmons and Lehmann (2007) did find in their sample of 1,283 women in shelters in Texas that those who reported that their partner engaged in animal abuse were statistically more likely to report that he was sexually abusive, emotionally abusive, and stalked them compared to women who did not report animal abuse by their partner. Notably, however, they were not more likely to report physical IPV, which the authors speculate may be because a large proportion of their sample reported being physically victimized, thus there was little variation in this variable. In looking at their descriptive statistics, however, it is apparent that an even larger proportion of their sample reported being emotionally abused, yet there was a statistically significant difference between the groups on this variable.

Subsequently, Hartman, Hageman, Williams, and Ascione (2015) employed the Pet Treatment Survey (a revision of the BPSS) and the revised Conflict Tactics Scale (CTS2; Straus,

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Hamby, Boney-McCoy, & Sugarman, 1996) with a sample of 291 women with children and who had pets in the past year and were seeking services at 22 domestic violence service agencies in the US. They found that participants who scored their partners higher on the Psychological Aggression subscale of the CTS2 were significantly more likely to report both threats against and physical harm of their pets by their partner. Contrary to theorizing and the earlier findings by Ascione et al. (2007), however, high scores on the Physical Assault subscale of the CTS2 were associated with significant decreased likelihoods of harm to pets. To explain this finding, the authors point to the fact that over half of their sample identified as Hispanic and that culturally, they may be less likely to develop strong affective relationships with pets. Previous research has shown that there are racial/ethnic differences in pet ownership, and that these differences are related to different types of interactions and relationships with pets (Brown, 2002; Siegel 1995). If animals are indeed harmed by abusers in instrumental ways to harm human victims who care for them (discussed next), then animal abuse may be less likely in the absence of a close bond between the victim of IPV and the pets. They also speculate that threats to harm and actual harm to pets may be more deeply embedded in the emotional and psychological abuse of intimate partners, as Hartman, et al.'s (2015) results indicate, and physical abuse of the pet is not needed when control is maintained via physical abuse of the woman.

In the general literature on IPV, control has been highlighted as a motivator for abuse (see Johnson, 2010; Lehmann, Simmons, & Pillai, 2012; Stark 2007; Walton-Moss, Manganello, Frye, & Campbell, 2005). In fact, in his delineations of types of abusive violence, Johnson (2006, 2007, 2008) uses threats to children and pets as a measure to discern between types of abusive violence. He conceptualizes threats against children and pets as a tactic of control, as

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well as a diffusion of anger and aggression in an effort to manipulate the abused partner, and identifies them as a marker of coercive controlling violence (previously referred to as intimate terrorism). Coercive controlling violence is the type of IPV most often seen in shelter samples (Johnson, 2006; 2007; 2008; Kelly & Johnson, 2008).

The role of control has also been explored in the specific literature on IPV and animal maltreatment (see Allen, Gallagher, & Jones 2006; Fitzgerald, 2005; Flynn, 2000a; Hardesty, Khaw, Ridgway, Weber, & Miles, 2013). Much of this research has been in-depth qualitative and has utilized relatively small samples. Among these samples, most if not all abused women report believing that their partners' mistreatment of their pets was motivated by a desire to control them. These authors also document strong affective relationships between the women who report control as a motivating factor for the abuse and their pets, indicating that the animal maltreatment may be instrumentalized as a means to further control and punish the woman.

Using a much larger sample than previous studies ($n = 1283$), Simmons and Lehmann (2007) tested the hypothesis that controlling behavior among abusers is associated with animal maltreatment. Respondents who reported animal abuse were statistically more likely to report controlling behavior as measured by the Checklist of Controlling Behaviors (CCB). However, although the correlations between each of the CCB subscales and animal maltreatment were positive, the proportion of variance explained was low (4.2%-10.5%). Among other things, they speculate that control may be part of the motivation for some abusers but not others, and that the control exerted on intimate partners and pets may be different. They conclude by recommending further research to better understand the relationship between animal abuse and controlling behaviors by abusers.

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There is also a small body of evidence that animal abuse is more likely to be present with multiple types and more severe cases of IPV (e.g., Ascione, et al. 2007; DeGue & DiLillo, 2008; Simmons & Lehmann, 2007). Simmons and Lehmann (2007) found with their sample of abused women in shelters that those who report animal abuse by their partner are statistically more likely to report that their partner also engaged in multiple types of IPV (i.e., physical, emotional, sexual, stalking). Further, in a retrospective study with a sample of 860 university students, DeGue and DiLillo (2008) found that the students who reported witnessing severe parental violence were significantly more likely to have witnessed acts of animal abuse as well. Finally, a general study of risk factors associated with severe IPV found that threats towards or abuse of pets was a significant factor (other factors identified include substance abuse and mental health problems) (Walton-Moss, et al., 2005).

To sum up, comparisons between romantic partners' treatment of animals among samples of women who have experienced IPV and those in the community who have not indicate that it is reasonable to conclude that, in the US at least, animal maltreatment is significantly more likely in homes where there is IPV. There is also some preliminary evidence that animal abuse may be a marker for multiple and more severe forms of IPV. Finally, the evidence regarding the types of IPV and controlling behaviors that animal abuse is most likely to be associated with is mixed.

Finally, the studies to date have used varying operationalizations of animal maltreatment (e.g., some only measure physical animal abuse, others include threats against pets, others neglect) and tend to rely on a fairly small number of questions regarding animal maltreatment. In the present study we utilize 21 questions to measure physical animal abuse, neglect, threats, and

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removal of pets from the home in order to tap into the nuances of what is certainly a very complicated set of actions (and inactions).

The current study is intended to provide additional insight into whether or not animal abuse is more likely to be present with specific types of IPV, more severe abuse, and controlling behavior. We also include in our analyses women in shelters who did not have pets during their abusive relationship (a first, as far as we can tell from the literature) to determine if their experiences of IPV are unique relative to women with pets who report little or no animal maltreatment and those who report frequent and severe animal abuse.

Methods

Research Question

The current study assesses within-group variations in experiences of IPV and pet abuse among sheltered battered women. Using a comprehensive, empirically validated 21-item measure of animal abuse within the context of IPV, the Partner's Treatment of Animals Scale (Fitzgerald, Barrett, Shwom, Stevenson, & Chernyak, 2016), we sought to assess if women's experiences of specific sub-types of intimate partner victimization and controlling behaviors vary along with the frequency and severity of animal maltreatment. More specifically, we ask, are there significant differences between abused women without pets, women whose pets experienced either no animal abuse or very little, and women whose pets experienced relatively frequent and severe animal abuse in respect to the type and severity of IPV and controlling behavior they experienced?

Sampling

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A comprehensive compilation of emergency and transitional shelters serving battered women was obtained by the research team through the Government of Canada report *Transition Houses and Shelters for Abused Women in Canada* (2008). A purposive sample of forty first stage (emergency shelter) organizations was selected from the list, with the aim of ensuring geographic representation across Canada as well as the inclusion of both small and large shelters within both urban and rural locales. Particular attention was paid to ensuring that selected shelters would afford the greatest diversity of potential participants (e.g., inclusion of Aboriginal women and immigrant women). Selected shelters were approached by the research team via an introductory letter from the project Principal Investigator (PI) followed by a phone call communication with the PI to further explore collaborations with the shelter for the purposes of this research.

Twenty-three shelters across Canada consented to be sites for data collection for a study investigating (a) the relationship between IPV against women and the abuse of companion animals, (b) organizational policies and practices pertaining to serving pets of abused women, and (c) shelter staff knowledge, experiences, and attitudes pertaining to animal abuse. This overarching study involved both qualitative (focus group) and quantitative (survey) research components with shelter staff and shelter residents. This paper reports findings specific to research aim (a).

Of the twenty-three shelters that consented to participate in at least one portion of the broader research study, seventeen agreed specifically to the collection of quantitative survey data from shelter residents, with one of these shelters agreeing to the collection of survey data from residents about animal abuse but not specific measures of domestic violence (e.g., the CTS-2). As such, survey data from this shelter was excluded from the analysis for this paper. Thus, the

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present study includes survey responses from women in sixteen battered women's shelters across Canada. Research Ethics Board (REB) approval was obtained by the research team.

Data Collection

Staff persons at participating shelters were briefed by the research team on issues of research ethics (e.g., ascertaining informed consent, maintaining security of research data, etc.) to ensure consistency of data collection procedures across shelter sites and to ensure the administration of ethical research protocols. Shelter staff was then asked to inform residents in their shelter about the study and to invite interested residents to participate. Staff members reviewed informed consent with participants and obtained written consent for participation. A copy of the survey instrument was distributed in hard copy form to shelter residents by shelter staff to be self-administered by residents in a private location at the time and place of their choosing. Upon completion, participants returned the survey to staff in a sealed envelope and were given a small token of appreciation (a \$5 gift card to a coffee shop) to thank them for their time and participation. Additionally, \$25 gift cards were given to participating shelters to thank them for their assistance in facilitating the research. Upon collection of all returned surveys from shelter residents, agency staff then returned the completed package of research materials (survey, informed consent forms) to the research team.

Participants

In total, 100 resident surveys were returned to the research team, with 86 respondents providing data regarding whether or not they had owned a companion animal while involved with their abusive partner. These 86 women comprised the sample for the present study. Data regarding the socio-demographic composition of study participants are provided in Table 1. As outlined in

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Table 1, there were statistically significant differences between the three groups in terms of age, race, nation of birth, and marital status. Subsequent analysis was conducted to determine the nature of these group differences, and it was determined that the primary difference was that Group 1 differed significantly from Groups 2 and 3; that is, pet ownership accounted for these differences in that people who own pets are statistically significantly more likely to be older, white, and Canadian born. Our analysis yielded no statistically significant group differences between Groups 2 and 3, with the exception of marital status because all individuals in Group 2 were unmarried.

[Insert Table 1 here]

Measures

Partner's Treatment of Animals Scale (PTAS). The PTAS is a 21 item measure of animal abuse specifically within the context of IPV (Fitzgerald, et al, 2016). It measures behavioral acts of omission (for example, refusing to feed a pet) as well as commission (for example, breaking a pet's bones) perpetrated by one's partner that had the potential to cause physical or emotional harm to one's pet. The PTAS includes five distinct scales of specific typologies of animal abuse including: *Emotional Abuse of Animal* (leaving the pet outside longer than safe, confining the pet in an inappropriately small space for an extended period of time, putting the pet in a dangerous situation, chasing the pet with the intent of harm, intimidating or scaring a pet on purpose); *Threats to Harm Animal* (threatening to get rid of a pet, threatening to harm a pet, threatening to harm other animals beyond pets, threatening to get rid of a pet to make the victim do something); *Physical Neglect of Animal* (refusing to feed a pet, refusing to provide water to a pet, refusing to provide pet with medicine for an ongoing medical condition); *Physical Abuse of*

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Animal (smacking a pet, kicking a pet, forcing a pet to fight with another animal, throwing an object at the pet, hitting the pet); and *Severe Physical Abuse of Animal* (breaking a pet's bones, drowning a pet, injuring a pet, killing a pet). Each individual item was assessed on a scale from 0 to 4 to evaluate the frequency with which each act occurred (4 = very frequently, 3 = frequently, 2 = occasionally, 1 = rarely, 0 = never), with a "don't know" option also provided. Each individual scale of the PTAS has been shown to have demonstrated acceptable reliability ($\alpha > .80$).¹

Of the 86 respondents who provided information on the ownership of companion animals during their abusive relationship, a total of 55 participants indicated that they had a pet at some point during the course of their relationship with their abusive partner. Among pet owners, cats were the most frequently reported companion animal, with 78.2% of respondents reporting at least one cat ($M = 1.69$, $SD = 1.62$, Range = 0 to 6). Dogs were the second most frequently reported animal companions, with 63.6% of women owning at least one dog while with their abuser ($M = 1.24$, $SD = 1.32$, Range = 0 to 5).

Revised Conflict Tactics Scale (CTS-2). The Revised Conflict Tactics Scale (CTS-2) is a 78 item instrument which measures the type and severity of conflict tactics between partners within a relationship (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). It includes five subscales: *Negotiation (emotional and cognitive)*, *Psychological Aggression (minor and severe)*, *Physical Assault (minor and severe)*, *Injury (minor and severe)*, and *Sexual Coercion (minor and severe)*. Respondents are directed to indicate "how many times you did each of these things in the past

¹ There is the potential for overlap in the items on the Severe Physical Abuse Scale, as breaking bones is a form of injury, for instance; however, an analysis of the correlations between the items on this scale indicated that they are distinct. See Fitzgerald et al. (2016) for a discussion of the construction of the PTAS.

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year and how many times your partner did them in the past year” as follows: 1 = once in the past year, 2 = twice in the past year, 3 = 3-5 times in the past year, 4 = 6-10 times in the past year, 5 = 11-20 times in the past year, 6 = more than 20 times in the past year, 7 = not in the past year but it did happen before, and 0= this has never happened). The CTS-2 has strong documented internal consistency reliability (between 0.79 to 0.95 for subscales) and demonstrated construct validity (Straus et al, 1996).

In the present study, we created a summative score for each subscale of the CTS-2 by summing the total number of items within the subscale that a respondent indicated that she had experienced. For example, if there were three items in the subscale and a respondent indicated that she had ever experienced two of those items, the summative score for that respondent for the subscale would be two. We did so instead of providing a summative score for each item response because whereas the response options 1 through 6 measure the frequency of that specific form of abusive behavior over the past year, response option 7 indicates that it did not happen in the past year but did happen at some point in the relationship. Therefore, a simple summative score of the item responses including category 7 would misrepresent the underlying temporal element.²

Checklist of Controlling Behaviors (CCB). Studies assessing the relationship between animal abuse and IPV have relied primarily on the Conflict Tactics Scale-2 (CTS-2) as the sole measure of partner abuse (Simmons & Lehmann, 2007 is a notable exception); however, the CTS-2 has been criticized for its failure to account for the controlling behaviors that often accompany violence. Therefore, we utilized eight subscales of the Checklist of Controlling Behaviors (CCB)

² We deemed it important to retain response option #7 because we are surveying women who had already left their abusive relationship, therefore measuring abuse that occurred in the last year alone might not accurately capture the experiences of the respondents vis-à-vis their relationship. Response option #7 made it possible to collect data about whether each specific form of abuse had ever occurred in the relationship. We also ran the analyses excluding category #7 and as expected, it truncated what the women reported.

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to specifically assess aspects of coercive control in violent relationships (Lehmann, Simmons, & Pillai, 2012). These scales included *Physical Abuse* (10 items, for example “Pinned me to the wall, floor, bed), *Sexual Abuse* (9 items, for example “Physically forced me to have sexual intercourse”), *Emotional Abuse* (9 items, for example, “Told me I was crazy”), *Economic Abuse* (7 items, for example “Threatened to withhold money from me”), *Intimidation* (7 items, for example “Drove angrily or recklessly”), *Threats* (7 items, for example “Threats to come after me if I left”), *Minimizing/Denying* (7 items, for example, “Told me to forget about what he did and leave it in the past”), and *Blaming* (4 items, for example “Blamed me for his abusive behavior by saying it was my fault”). Items were measured on a scale from 0 to 4 (0 = never, 1 = rarely, 2 = occasionally, 3 = frequently, 4 = very frequently) over the duration of the relationship. The CCB has been found to have demonstrated construct validity for the whole scale as well as each subscale and high levels of reliability, with Cronbach alphas between 0.80 to 0.92 for the individual subscales (Lehmann, et al., 2012). In the present study, respondents were instructed to answer the questions as they pertained to “the relationship that brought you to this shelter/transition house.” Summative scores for each CCB subscale were obtained by summing the individual item scores (0 to 4) for each item within the subscale.

Analysis

From the overall sample of 86 respondents, three groups of battered women were created for comparison as follows: (1) *Group 1*: women who did not report owning companion animals during their abusive relationship (n = 31); (2) *Group 2*: women who reported owning a companion animal during the course of their abusive relationship who stated that their pet was either not mistreated by their partner or that there were very low levels of maltreatment (n = 21);

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and (3) *Group 3*: women who reported owning a companion animal during the course of their abusive relationship who stated that their pet was mistreated by their partner with relatively high or severe levels of abuse ($n = 34$). Group 2 was inclusive of women who reported less than or equal to four different indicators of animal abuse as measured by the PTAS scale but who reported no form of animal abuse in the Severe Physical Abuse of Animal subscale. We selected four instances of animal maltreatment as the dividing point to create groups of approximately equitable size. As there was insufficient statistical power to analyze separately women with pets who experienced no animal abuse (as only six women reported having an animal companion and did not endorse any items on the PTAS as ever occurring), women who had companion animals but did not experience animal abuse were included in Group 2 with women who experienced low levels of less severe animal abuse. Group 3 was inclusive of women who reported more than four unique indicators of animal abuse as measured by the PTAS as well as those who reported any item of animal abuse included in the Severe Physical Abuse of Animal subscale (e.g., if a woman reported only one indicator of animal abuse but it was a form of animal abuse that was severe in nature, she was included in Group 3).

A series of one-way between groups analysis of variance (ANOVA) tests were performed to determine if differences existed between these three groups on each of the subscales of the CTS-2 and the CCB. For analyses that yielded significant group differences, post-hoc tests were performed (Bonferroni p-value) to determine the specific nature of the group differences. All 'don't know' responses were treated as missing data, and all missing data was excluded from analyses.

Results

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Among women with companion animals during their abusive relationships, animal maltreatment was a common experience: approximately 89% of the women who had pets reported they had been mistreated by their partner. Table 2 provides descriptive statistics (percentages) for the number of women with companion animals who reported having ever experienced each indicator of pet abuse included in the PTAS. [Insert Table 2 here]

The most common form of animal maltreatment reported was threats by a partner to get rid of a pet (65.5%), followed by the perpetrator intimidating or scaring a pet on purpose (60%), smacking a pet (56.4%), throwing an object at a pet (50.9%), threatening to harm a pet (47.3%), chasing a pet with the intent of harm but not catching the pet (43.6%), refusing to feed a pet (41.8%), and kicking a pet (41.8%). Among the most serious forms of pet abuse experienced (as measured by the Severe Physical Abuse scale) among all women with pets, the most common form of serious abuse was the injury of a pet (20%), followed by the perpetrator killing a pet (14.5%), breaking a pet's bones (10.9%), and drowning a pet (9.1%). When asked how often animal maltreatment by their partner was reported to authorities, 16.4% said often or frequently. Just over half indicated it was never reported.

Fifty six percent of the sample reported they delayed leaving their abusive partner due to concern for their pets' safety. This problem is compounded by the fact that 47.5% of the clients were not advised by shelter staff of off-site services available for caring for their pets while they were at the shelter. An additional 25% were advised, but only once they were in the shelter. As a result, 60% of the women left their pets with their abusive partner. This poses a risk not only to the pets left behind with abusers, but also to the women who had fled the abusive relationship, as

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one third of the clients reported that they were considering returning to their abusive partner because he had their pet.

We calculated Pearson Correlation Coefficients to assess the association between the PTAS and the subscales of the CTS-2 and CCB that we used (see Table 3). The values were all positive, and the coefficients measuring the association between the PTAS and the CTS-2 and CCB subscales were all statistically significant. They ranged in value from 0.343 to 0.460. [Insert Table 3 here]

A one-way ANOVA comparing our three groups of survivors on scores of each subscale of the CTS-2 measuring IPV yielded statistically significant group differences in the following scales: Severe Psychological Abuse ($F = 5.23$, $p < .01$), Minor Physical Abuse ($F = 4.95$, $p \leq .01$), Severe Physical Abuse ($F = 3.31$, $p \leq .05$), and Severe Sexual Abuse ($F = 3.11$, $p \leq .05$). Post-hoc tests for these analyses (Bonferroni p-value) to determine the specific nature of group differences are outlined in Table 4. [Insert Table 4 here]

For the Severe Psychological Abuse subscale, Group 1 and Group 2 significantly differed, with women with no pets reporting higher levels of severe psychological abuse than women with no to low levels of pet abuse ($M = 3.12$; $SD = 1.33$ and $M = 2.06$; $SD = 1.24$ respectively), and Group 3 significantly differed from Group 2, with women with severe pet abuse experiencing higher levels of severe psychological abuse than women with no to low levels of pet abuse ($M = 3.16$; $SD = 0.99$ and $M = 2.06$; $SD = 1.24$, respectively). The mean for Group 3 was higher than for Group 1, but this difference was not statistically significant. For the Minor Physical Abuse subscale, Group 2 (women with no to low pet abuse, $M = 2.31$; $SD = 1.66$) experienced significantly lower levels of minor physical abuse than women in Group 3

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(those who had experienced severe pet abuse, $M = 4.00$; $SD = 1.48$). For the Severe Physical Abuse subscale, women in Group 2 reported significantly lower rates of severe physical abuse ($M = 1.71$; $SD = 1.83$) than Group 3 ($M = 3.71$; $SD = 2.65$). In regards to the Severe Sexual Abuse subscale, no significant group differences were found in the post-hoc analysis; however, the differences between Group 2 and Group 3 were approaching the level of significance ($p = .07$), with women in Group 3 reporting higher levels of severe sexual abuse ($M = 1.78$; $SD = 1.98$) than women in Group 2 ($M = 0.47$; $SD = 0.64$).

A second series of one way ANOVA were then conducted to assess group differences in scores on the CCB subscales. Significant group differences were found on three subscales: Physical Abuse ($F = 3.84$, $p < .05$), Sexual Abuse ($F = 6.18$, $p \leq .01$), and Economic Abuse ($F = 6.15$, $p \leq .01$). A fourth subscale, Denying, was approaching the level of significance ($F = 2.94$, $p = .06$). Post- hoc test for these analyses (Bonferroni p-value) to determine the specific nature of group differences are outlined in Table 4.

For the Physical Abuse subscale, Group 3 significantly differed from Group 2, with women with severe animal abuse reporting significantly higher rates of physical abuse ($M = 15.90$; $SD = 9.30$) than women with no or little animal abuse ($M = 8.11$; $SD = 7.94$). For the Sexual Abuse subscale, Group 1 significantly differed from Group 2 (with women with no pets reporting significantly higher rates of sexual abuse than those with no to low pet abuse, $M = 9.56$; $SD = 10.10$ and $M = 7.44$; $SD = 7.69$ respectively), and Group 3 significantly differed from Group 2 (with women with severe pet abuse reporting higher rates of sexual abuse than those with no to low levels of pet abuse, $M = 16.03$; $SD = 9.21$ and $M = 7.44$; $SD = 7.69$ respectively). Finally, for the Economic Abuse subscale, Group 3 significantly differed from Group 1, in that

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women with severe pet abuse reported higher rates of economic abuse ($M = 20.48$; $SD = 7.42$) than women with no pets ($M = 12.83$; $SD = 9.34$).

Discussion

Although the CTS2 and CCB measure types of intimate partner abuse differently, we find fairly consistent results between the two in our sample. There were statistically significant differences between the groups of abused women (those who did not have pets, those who had pets and reported little or no animal maltreatment, and those who had animals and reported fairly high levels of abuse) on the Physical Assault subscale of the CTS2 (for both minor and severe physical assault) and the Physical abuse subscale of the CCB. In both instances, the significant differences were between group 2 (those with little or no animal maltreatment) and group 3 (those with more frequent and severe animal maltreatment). The mean of group 3 was significantly higher than for group 2: on the minor physical assault subscale of the CTS the difference was 1.69, on the severe physical assault subscale of the CTS2 the difference was 2.0, and on the physical abuse scale of the CCB the difference was 7.79. This means that on average, women who reported more frequent and severe animal abuse also reported an additional 1.69 of the minor physical abuse items and 2 of the severe physical abuse items in the CTS2 had been perpetrated against them. Additionally, the score of group 3 on the physical abuse subscale of the CCB was on average 7.79 units greater than for group 2.

These findings are consistent with Ascione, et al.'s (2007) finding that their measure of threatening behavior against pets and physical animal abuse were positively associated with the minor physical violence and severe physical violence subscales of the CTS respectively. Recall, however, that two other studies found differing results regarding the relationship between animal

Animal maltreatment as a risk marker of severe IPV abuse and physical IPV. Simmons and Lehmann (2007) found in their Texas sample that women who reported physical IPV via the CCB were not statistically more likely to report animal abuse. They had speculated that these results may be due to the fact that there did not have much variance in the physical IPV variable because many women in their shelter sample reported being victimized in this way; however, they did find significant differences in emotional abuse, which even more of their sample reported. It is possible that their findings may instead be related to their measure of animal maltreatment, which they measured via the following five questions:

Threatened to hurt pet if I didn't change, verbally abused the pet in front of me, hit a pet with objects when angry, killed a pet, and my children watched pets being hurt.

In contrast, the PTAS instrument we used (which contained 21 items total) also included measures of neglect, threatening to remove pets, attempting to harm but failing to make contact, putting pets at risk, and miscellaneous forms of injury. Using their measure of animal maltreatment, 25% of their sample reported their partner had mistreated their pets, whereas using the PTAS we found approximately 89% of our sample reported animal maltreatment. The Ascione et al. (2007) study used questions that tapped into neglect, threatening to harm or kill a pet, as well as actual physical harm to a pet; 72% of their sample reported animal maltreatment using these measures. The differences in findings between our studies could theoretically be due to differences between Simmons and Lehmann's Texas shelter sample, the Utah shelter sample used by Ascione and colleagues, and our sample of shelters across Canada, but we would suggest that differences in the measurement of animal maltreatment are particularly important here.

The other study that did not find a relationship between animal maltreatment and physical IPV was conducted by Hartman and colleagues (2015). They actually found that high scores on

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the Physical Assault subscale of the CTS2 were associated with decreased likelihood of harm to pets. They attributed this finding in part to the fact that a large proportion of their sample identified as Hispanic and culturally may be less likely to form strong bonds with pets (see Brown, 2002; Siegel 1995), which may make instrumentalized use of animal maltreatment by abusers less likely. However, it should be noted that at least one study has found no statistically significant difference between Hispanics and other racial-groups in regards to level of attachment to pets (Riley-Curtiss, Holley, and Wolf, 2006). One limitation of the current study is that we were unable to control for factors that significantly differed between our three groups, such as race/ethnicity, due to insufficient statistical power related to sample size. However, an exploration of group differences found that the significant socio-demographic differences were accounted for by differences in pet ownership, in that pet owners were significantly more likely to be older, white, and Canadian born than non-pet owners. There were no socio-demographic differences found between Group 2 (no or low pet abuse) and Group 3 (high pet abuse). This indicates that in our sample socio-demographic differences between our three groups were more so accounted for by socio-demographic differences in owning a pet as opposed to socio-demographic differences in experiencing pet abuse among pet owners. We were unable to conduct such an analysis for the marital status variable because one of our groups (Group 2) had a cell count of zero. Further research is needed to untangle any possible associations between marital status, animal abuse, and IPV.

It is also possible that the negative relationship Hartman et al. (2015) found between physical IPV and animal maltreatment is related to their exclusive focus on physical animal abuse. Although we understand their interest in focusing on the most severe forms of abuse, just

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as using only physical injury to measure IPV would overlook a whole constellation of abusive behavior that can produce negative impacts, measuring only physical harm to animals may miss a whole litany of behaviors that put the animals at risk and may be instrumentalized to harm the human victims of IPV. For instance, it is possible that threatening to do something to a beloved pet may garner one more control in a relationship than actually harming a pet to the point that that leverage is lost.

We also found significant results with the severe sexual abuse subscale of the CTS2 and the sexual abuse subscale of the CCB. Although the post-hoc tests were not significant for the sexual abuse sub-scale of the CTS2, there were statistically significant differences between group 1 and 2 means (9.56 versus 7.44) and group 2 and 3 (7.44 and 16.03 respectively) on the CCB. The difference between the mean score on this sub-scale between group 2 and 3 is quite large, and it makes conceptual sense that the women who report more types and greater severity of animal maltreatment would also be more likely to report that they themselves had been victimized sexually by their abuser. This finding is also consistent with Simmons and Lehmann (2007)'s findings.

The fact that the mean of group 2 on the sexual abuse sub-scale of the CCB is also significantly lower than for group 1 (women without pets) is interesting. In fact, in all the analyses where the post-hoc differences were significant (with the exception of the economic subscale of the CCB), the mean of group 2 was the lowest, followed by group 1, and then group 3 with the highest mean. Two possible explanations for this finding are worth mentioning here. First, it is possible that the presence of animals coupled with little or no animal maltreatment, as represented by group 2, could be a marker of less frequent and severe IPV. Perhaps the less

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frequent and severe IPV in these cases is less likely to be motivated by power and control, and therefore animal abuse is less likely to be instrumentalized here to achieve those ends. Second, the finding could be related to an underlying temporal ordering of pet ownership, pet abuse, and IPV. It is possible that in some cases acquiring a pet comes after the initial incident of IPV; more specifically, some perpetrators may acquire pets for their partners after they have abused them as part of an attempt to convince them that they are kind and caring, and that the abuse was just a one-time occurrence. This would be consistent with studies that have documented that some batterers give gifts to their victims after abuse to attempt reconciliation (Burgess, Harner, Baker, Hartman, and Lole 2001). Further research exploring these possibilities is warranted.

We also found statistically significant differences between the groups on the measures of severe psychological abuse on the CTS2. Once again, the mean of Group 2 was the lowest (2.06) and it was significantly different from Group 1 (mean = 3.12) and Group 3 (3.16). Women who had pets who were exposed to little or no maltreatment by their abusive partners on average reported approximately one less of the severe psychological abuse items from the CTS2. This finding of a relationship between animal maltreatment and psychological IPV is consistent with Hartman et al.'s (2015) findings using the psychological abuse subscale of the CTS2. The difference between Group 1 and Group 3 was fairly small and was not statistically significant.

Finally, we also found a statistically significant difference between Group 1 and 3 on the economic subscale of the CCB. The mean for Group 3 (20.48) is 7.65 units greater than for Group 1 (12.83). The mean of Group 2 is 15.90, but the differences with the other groups were not statistically significant. Simmons and Lehman (2007) also used the CCB, but they did find a statistically significant difference on the economic subscale between those who reported physical

Animal maltreatment as a risk marker of severe IPV animal abuse and those who did not, whereas we did not find a statistically significant difference between Group 2 and Group 3. This is the one exception in our analyses where the post-hoc tests indicated a significant difference between Groups 1 and 3 but not between Group 2 and Group 1 or 3. Additionally, this is the only sub-scale where the mean of Group 2 was greater than that of Group 1 (although the mean of Group 3 was greater than the other two groups in all of the sub-scales where the ANOVA test demonstrated statistically significant results).

Conclusion

In our sample, women whose pets were more frequently and severely abused reported greater levels of physical, sexual, and psychological abuse directed at them by their partners than those who reported little or no maltreatment of their pets by their partner. The findings of other studies assessing the relationship between physical IPV and animal maltreatment have been mixed. We would speculate that a significant positive relationship was found between animal maltreatment and physical IPV in the current study and the one by Ascione et al. (2007) because we used questions that tapped into the many dimensions of animal maltreatment instead of focusing exclusively on physical harm or framing questions around very specific types of events (e.g., threats to harm a pet if the woman did not change) that might not capture the experiences of many women. Further research is needed, however, to determine if some of these differences in findings may also be related to sample demographic characteristics, as hypothesized by Hartman and colleagues (2015) as a result of their findings with an immigrant-rich sample.

Our inclusion of the group of abused women in shelters who did not have pets (Group 1) in our analyses for comparative purposes proved useful. In all but one of the sub-scales where we found statistically significant mean differences between the groups, the mean levels of IPV of

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Group 1 was situated between the means of Group 2 (women with pets who report little or no maltreatment) at the low end and the mean of Group 3 (women with pets who report frequent and severe abuse) at the high end of the continuum. This indicates not only that more frequent and severe animal abuse is more likely to go hand-in-hand with severe IPV, but also that the presence of pets in a home where there is little or no animal abuse can be indicative of less severe and frequent IPV, at least at that moment in time.

Of the four statistically significant differences we found in sub-scales of the CTS2, three were measures of severe abuse (severe psychological, severe physical, and severe sexual); the fourth was a measure of minor physical abuse. This finding provides further support for using animal maltreatment as a particularly significant red flag for severe forms of IPV (see Ascione, et al., 2007; DeGue & DiLillo, 2008; Simmons & Lehmann, 2007; Walton-Moss, et al., 2005); it also indicative of the need to develop programs to best serve the needs of abused women with pets so that they do not delay leaving an abusive partner due to concern for their pet's safety.

Importantly, 56% of our sample reported that they delayed leaving their abusive partner due to concern for their pet's safety and 60% left their pets with their abusive partner once they did flee to the shelter. This clearly raises safety concerns for the animals left behind, as well as women who delay leaving their partner because of their pet and those more likely to return to their partner because he has their pet (one third of our sample reported considering returning to their abusive partner because he had their pet). These concerns are compounded by our finding that survey respondents who reported more frequent and severe animal maltreatment were also significantly more likely to report that their partner has perpetrated several forms of IPV against them, including severe psychological abuse, minor and severe physical abuse, and sexual abuse.

This study therefore underscores the need for better understanding and mitigating the unique barriers to leaving an abusive relationship faced by women with companion animals, as well as the fate of the animals that they leave behind.

References

- Allen, M., Gallagher, B., & Jones, B. (2006). Domestic Violence and the Abuse of Pets: Researching the Link and Its Implications in Ireland. *Practice, 18*(3), 167–181.
- Ascione, F. R. (1998). Battered women's reports of their partners' and their children's cruelty to animals. *Journal of Emotional Abuse, 1*(1), 119–133.
- Ascione, F. R., Weber, C. V, Thompson, T. M., Heath, J., Maruyama, M., & Hayashi, K. (2007). Battered Pets and Domestic Violence: Animal Abuse Reported by Women Experiencing Intimate Violence and by Nonabused Women. *Violence Against Women, 13*(4), 354–373.
- Ascione, F. R., Weber, C. V, & Wood, D. S. (1997). The abuse of animals and domestic violence: A national survey of shelters for women who are battered. *Society & Animals, 5*(3), 205–218.
- Brown, S. E. (2002). Ethic variations in pet attachment among students at an American school of Veterinary Medicine. *Society and Animals 10*(3): 249-266.
- Burgess, A. W., Harner, H., Baker, T., Hartman, C. R., and Lole, C. (2001). Batterers stalking patterns. *Journal of Family Violence 16*(3): 309-321.
- Carlisle-Frank, P. L., Frank, J. M., & Nielsen, L. (2004). Selective battering of the family pet. *Anthrozoos, 17*(1), 26–42.
- DeGue, S., & DiLillo, D. (2009). Is Animal Cruelty a “Red Flag” for Family Violence? Investigating Co-Occurring Violence Toward Children, Partners, and Pets. *Journal of Interpersonal Violence, 24*(6), 1036–1056. doi:10.1177/0886260508319362
- Faver, C. A., & Strand, E. B. (2003). To Leave or to Stay?: Battered Women's Concern for Vulnerable Pets. *Journal of Interpersonal Violence, 18*(12), 1367–1377.
- Faver, C. A., & Strand, E. B. (2007). Fear, Guilt, and Grief: Harm to Pets and the Emotional Abuse of Women. *Journal of Emotional Abuse, 7*(1), 51–70.

- Febres, J., Brasfield, H., Shorey, R. C., Elmquist, J., Ninnemann, A., Schonbrun, Y. C., ... Stuart, G. L. (2014). Adulthood Animal Abuse among Men Arrested for Domestic Violence. *Violence Against Women, 20*(9), 1059–1077. doi:10.1177/1077801214549641
- Fitzgerald, A. J. (2005). *Animal abuse and family violence: Researching the interrelationships of abusive power*. Lewistown, NY: Mellen.
- Fitzgerald, A. J. (2007). 'They Gave Me a Reason to Live': The Protective Effects of Companion Animals on the Suicidality of Abused Women. *Humanity and Society, 31*(4), 355-378.
- Flynn, C. P. (2000a). Battered women and their animal companions: Symbolic interaction between human and nonhuman animals. *Society & Animals, 8*(2), 99–127.
- Flynn, C. P. (2000b). Woman's Best Friend: Pet Abuse and the Role of Companion Animals in the Lives of Battered Women. *Violence Against Women, 6*(2), 162–177.
- Hardesty, J., Khaw, L., Ridgway, M., Weber, C., & Miles, T. (2013). Coercive Control and Abused Women's Decisions About Their Pets When Seeking Shelter. *Journal of Interpersonal Violence, 28*(13), 2617-2639.
- Johnson, H., & Dawson, M. (2011). *Violence against women in Canada: Research and policy perspectives*. Toronto, ON: Oxford University Press.
- Johnson, M.P (2006). Conflict and control: Gender symmetry and asymmetry in domestic violence. *Violence against Women, 12*(11), 1003-18.
- Johnson, M.P. (2007). Domestic violence: The intersection of gender and control. In L. O'Toole, J. R. Schiffman, & M.L. Kiter Edwards (Eds.), *Gender violence : Interdisciplinary perspectives* (2nd ed., pp. 257-268). New York: New York University Press.
- Johnson, M.P. (2008). *A typology of domestic violence: Intimate terrorism, violent resistance, and situational couple violence*. Hanover, NH: University Press of New England.
- Krienert, J. L., Walsh, J. a., Matthews, K., & McConkey, K. (2012). Examining the Nexus Between Domestic Violence and Animal Abuse in a National Sample of Service Providers. *Violence and Victims, 27*(2), 280–295. doi:10.1891/0886-6708.27.2.280
- Lehmann, P., Simmons, C.A., & Pillai, V.K. (2012). The validation of the Checklist of Controlling Behaviors (CCB): Assessing coercive control in abusive relationships. *Violence Against Women, 18*(8), 913-933.
- Maiuro, R. D., Eberle, J. A., Rastaman, P., & Snowflake, B. (2008). Pet abuse: Relationships to psychobiology, attachment processes, and domestic violence. In F. R. Ascione (Ed.), *The international handbook of animal abuse and cruelty: Theory, research, and application* (pp. 133–153). West Lafayette, IN: Purdue University Press.
- McIntosh, S. C. (2004). *The links between animal abuse and family violence, as reported by women entering shelters in Calgary communities*. Canadian Veterinary Medical Association. Retrieved from <http://canadianveterinarians.net/animal-abuse-link.aspx>

- Public Health Agency of Canada, National Clearinghouse on Family Violence. (2008). *Transition Houses and Shelters for Abused Women in Canada*. Ottawa.
- Quinlisk, J. A. (1999). Animal abuse and family violence. In F. R. Ascione & P. Arkow (Eds.), *Child abuse, domestic violence, and animal abuse: Linking the circles of compassion for prevention and intervention* (pp. 168–175). West Lafayette, IN: Purdue University Press.
- Risley-Curtiss, C., Holley, L., & Wolf, S. (2006). The anima-human bond and ethnic diversity. *Social Work* 51(3): 257-268.
- Siegel, J. M. (1995). Pet ownership and the importance of pets among adolescents. *Anthrozoos* 8: 217-223.
- Simmons, C. A., & Lehmann, P. (2007). Exploring the Link Between Pet Abuse and Controlling Behaviors in Violent Relationships. *Journal of Interpersonal Violence*, 22(9), 1211–1222.
- Stark, E. (2007). *Coercive control: How men entrap women in personal life*. New York: Oxford University Press.
- Stevenson, R. (2009). *Violence affects all members of the family: Safe pet programs in Western Canada*. Simon Fraser University, Burnaby, BC.
- Strand, E., & Faver, C. (2005). Battered Women's Concern for Their Pets: A Closer Look. *Journal of Family Social Work*, 9(4), 39-58.
- Straus, M. (1979). Measuring intrafamily conflict and violence: The conflict tactics (CT) scales. *Journal of Marriage and the Family*, 41(1), 75-88.
- Straus, M.A., Hamby, Sherry L., Boney-McCoy, S., & Sugarman, D.B. (1996). The Revised Conflict Tactics Scale (CTS2). *Journal of Family Issues*, 17(3), 283-316.
- Volant, A. M., Johnson, J. A., Gullone, E., & Coleman, G. J. (2008). The Relationship Between Domestic Violence and Animal Abuse: An Australian Study. *Journal of Interpersonal Violence*, 23(9), 1277–1295. doi:10.1177/0886260508314309
- Walton-Moss, B.J., Manganello, J., Frye, V., & Campbell, J.C. (2005) Risk factors for intimate partner violence and associated injury among urban women. *Journal of Community Health*, 30(5), 377-389.

Table 1 Summary of Socio-Demographic Characteristics of Study Participants by Group

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Characteristic	<u>Group 1</u> Women without companion animals (n = 31)	<u>Group 2</u> Women with companion animals with no to low levels of animal abuse (n = 21)	<u>Group 3</u> Women with companion animals with severe or high levels of animal abuse (n = 34)	<u>Group Differences</u> (p value) ⁺
Age (years)	<i>M</i> = 33.29 (<i>SD</i> =9.16)	<i>M</i> = 41.48 (<i>SD</i> =11.79)	<i>M</i> = 39.94 (<i>SD</i> =10.61)	.01**
Racial identity (white)	41.94%	80.95%	70.59%	.01**
Francophone	9.68%	0%	0%	.06
Nation of birth (Canada)	64.52%	95.24%	91.18%	.01**
Level of education (university or higher)	9.68%	4.76%	8.82%	.89
Personal annual income (\$20,000 or less)	71.43%	76.47%	50%	.15
Marital status (legally married)	6.45%	0%	23.53%	.02*
Rural residence (including First Nations reserves)	25%	38.10%	33.33%	.59
Mental or physical disabilities or health problems	38.71%	35%	47.06%	.67
Number of times left abusive partner	<i>M</i> = 3.07 (<i>SD</i> =2.73)	<i>M</i> = 2.53 (<i>SD</i> =1.98)	<i>M</i> =3.06 (<i>SD</i> =3.41)	.77
Abuser's gender (male)	96.77%	95.24%	100%	.52
Sexual identity (non-heterosexual)	7.14%	15%	6.25%	.60

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

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+ANOVA was run for age, number of times left relationship; all others were assessed using Fischer's Exact Two-sided test.

Subsequent analysis was conducted to compare those who own pets (Group 2 and 3 combined) and those who do not (Group 1). Significant differences were found for age (40.53 and 33.29, $p < .01$), racial identity (74.55% and 41.94% white, $p < .01$), nation of birth (92.73% and 64.52% Canadian born, $p < .001$). A test of within group differences among pet owners (Group 2 vs Group 2) yielded no significant group differences on these three variables.

Table 2 Summary of Types of Animal Abuse Experienced by Women who Owned Animal Companions During Their Abusive Relationship (n = 55)

Item on Partner's Treatment of Animals Scale (PTAS)	Percentage
Threatened to get rid of a pet	65.5%
Threatened to harm a pet	47.3%
Threatened to harm other animals (pets of neighbors or family members)	36.4%
Threatened to harm or get rid of a pet to get me to do something	30.9%
Refused to feed a pet	41.8%
Refused to provide water for a pet	38.2%
Left a pet outside longer than I thought safe	34.5%
Confined a pet in an appropriately small space for an extended period of time	36.4%
Refused to provide pet with medicine for an ongoing health condition	25.5%
Put pet in a dangerous situation	32.7%
Chased pet with the intent of harm but did not catch the pet	43.7%
Intimidated or scared a pet on purpose	60.0%
Smacked a pet	56.4%
Kicked a pet	41.8%
Forced a pet to fight with another animal	5.5%
Threw an object at a pet	50.9%
Hit a pet with an object	36.4%
Broke a pet's bones	10.9%
Drowned a pet	9.1%

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Injured a pet	20%
Killed a pet	14.5%

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Table 3 Pearson Correlation Coefficients

	PTAS	CTS Severe Psychological Abuse	CTS Minor Physical Abuse	CTS Severe Physical Abuse	CTS Severe Sexual Abuse	CCB Sexual Abuse	CCB Economic Abuse
PTAS	1.000						
CTS Severe Psychological Abuse	0.492***	1.000					
CTS Minor Physical Abuse	0.457**	0.734***	1.000				
CTS Severe Physical Abuse	0.405**	0.638***	0.773***	1.000			
CTS Severe Sexual Abuse	0.449**	0.479***	0.443***	0.636***	1.000		
CCB Physical Abuse	0.418**	0.565***	0.679***	0.738***	0.521***	1.000	
CCB Sexual Abuse	0.460***	0.368**	0.375**	0.362**	0.530***	0.475***	1.000
CCB Economic Abuse	0.343*	0.212	0.223	0.174	0.278*	0.205	0.409***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 4 Summary of Post-Hoc Tests of Group Differences

Subscale	Contrast	t	Bonferroni p-value (two-sided)
CTS Severe Psychological Abuse			
Group 2-Group 1	-1.06	-2.83*	0.02
Group 3-Group 1	0.04	0.12	1.00
Group 2-Group 3	1.10	2.94*	0.02
CTS Minor Physical Abuse			
Group 2-Group 1	-1.29	-2.38	0.06
Group 3-Group 1	0.40	0.82	1.00
Group 2-Group 3	1.69	3.07**	0.01
CTS Severe Physical Abuse			
Group 2-Group 1	-1.21	-1.57	0.36
Group 3-Group 1	0.79	1.12	0.80
Group 2-Group 3	2.00	2.57*	0.04
CTS Severe Sexual Abuse			
Group 2-Group 1	-1.24	-2.18	0.10
Group 3-Group 1	0.07	0.15	1.00
Group 2-Group 3	1.32	2.29	0.07
CCB Physical Abuse			
Group 2-Group 1	-4.48	-1.56	0.37
Group 3-Group 1	3.31	1.32	0.57
Group 2-Group 3	7.79	2.76*	0.02
CCB Sexual Abuse			
Group 2-Group 1	-2.11	-0.75	1.00
Group 3-Group 1	6.48	2.69*	0.03
Group 2-Group 3	8.59	3.16**	0.01
CCB Economic Abuse			
Group 2-Group 1	3.07	1.24	0.65
Group 3-Group 1	7.66	3.49***	0.00
Group 2-Group 3	4.58	1.88	0.19

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$