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Journal of Human-Animal Studies

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Society & Animals publishes studies that describe and analyze our experience of non human animals. The goal of the journal is to stimulate and support an emerging content area within the social sciences and the humanities. "Human-Animal studies" consists of the ways in which non human animals figure in our lives.

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Kelly L. Thompson and Eleonora Gullone[1]

An Investigation into the Association between the Witnessing of Animal Abuse and Adolescents' Behavior toward Animals

ABSTRACT

Research (Baldry, 2003; Flynn, 1999, 2000a; Henry, 2004) has linked witnessing abuse to nonhuman animals with the committal of such acts. This study reports frequency data based on adolescents' self-reported witnessing of animal abuse and involvement in animal-directed behaviors. The study investigates associations between witnessing abuse and engaging in both positive and negative animal-directed behaviors. 281 adolescents, 12-18 years of age, completed measures of animal cruelty and the humane treatment of animals. As predicted, the study found a history of witnessing animal abuse associated with significantly higher levels of animal cruelty. The study reported significantly higher levels of cruelty for those who had witnessed a friend, relative, parent, or sibling abuse an animal and significantly lower levels for those who had witnessed a stranger abuse an animal. Participants who "Frequently" witnessed animal abuse reported significantly higher levels of cruelty than those who viewed abuse "A few times". There was no association found between humane treatment of animals and the witnessing of animal abuse. Positive influences, peer mentors and humane education, would help to combat this cycle of abuse.

Animal abuse has been defined as the intentional, malicious, or irresponsible infliction of unnecessary physiological, and/or psychological pain, suffering,

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distress, deprivation, and/or the death of an animal by a human (Ascione, 1993; Vermeulen & Odendaal, 1993). Although the general concept of animal abuse has been widely researched, "that children are often witness to such displays of cruelty has received scant research scrutiny" (Ascione, Thompson, & Black, 1997, p. 207).

However, despite the call for further empirical research in this area, hostile and abusive family environments have been consistently linked to increased incidences of childhood exposure to cruelty to nonhuman animals. A number of researchers (Ascione, 1998; DeViney, Dickert, & Lockwood, 1983; Flynn, 2000a; Lerner, 1999) have reported that abusive adults within violent homes—as a way of controlling, intimidating, and silencing their victims—often threaten to harm, or actually do harm, animals in front of children and/or adult partners.

The Cycle of Abuse

Exposure to family violence such as that described above has been linked to a number of internalizing (depression, anxiety, withdrawal, victimization at school) and externalizing symptoms (substance abuse, aggressive and antisocial behaviors, and juvenile crime) during childhood and adolescence (Horton, Cruise, Graybill, & Cornett, 1999). Baldry (2003) has emphasized that abusing animals is a form of acting out that is highly correlated with childhood exposure to human- and/or animal-directed violence within the home.

Coston and Protz (1998) attempted to explain this cycle of abuse, arguing that there is a "pecking order of aggressive acts, involving a lack of empathy, being passed down from the head of the household through the child and down to animals" (pp. 154, 155). Through their abusive parents, children learn to perpetrate acts of violence against a more innocent and powerless victim than themselves (DeViney et al., 1983). Further, witnessing parental animal cruelty provides not only a lack of modeling of appropriate behaviors with animals but also modeling of animal abuse itself (Duncan & Miller, 2002). Congruent with these proposals, Baldry (2003) stated that exposure to animal abuse, especially abuse committed by parents or peers, is a particularly strong predictive factor for subsequent acts of animal abuse perpetrated by the observer.

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Studies Investigating Exposure to Family Violence and Animal Abuse during Childhood

In an attempt to illustrate this intergenerational transmission of animal abuse, Gullone, Volant, and Johnson (2004) investigated the links between family violence and witnessing and perpetrating animal abuse. A total of 204 women participated in a telephone survey, half of whom were recruited through family violence services (the remaining half were sampled within the community). As predicted, the family violence group reported significantly higher incidences of their children having been exposed to animal abuse. Specifically, 27 (29%) mothers within the family violence group reported that their children had witnessed their companion animal being harmed or killed by her partner. In comparison, no mothers within the community sample reported that their children had witnessed the harming or killing of a family pet. Furthermore, 18 (19%) mothers within the family violence group reported that their children had harmed or killed a family pet, compared to the community group, whereby only one mother (1%) reported that her child had done so.

In a related study, Ascione et al. (in press) investigated how children's emotional and mental health might be affected by living in a home affected by both domestic violence and animal abuse. A sub-sample (taken from an overall sample of 221 women) was composed of 77 mothers who were seeking shelter from their abusive partner, and 70 mothers who had not experienced domestic violence. A significantly higher proportion of domestic violence group children (62%) were reported by their mothers to have witnessed pet abuse, in comparison to the community group children (3%). Thirty-nine domestic violence children were directly interviewed, 67% of whom reported that they had witnessed animal abuse; 13% admitted to having perpetrated such acts. The majority (59%) of children who were asked to rate their level of distress in response to their pets being hurt or killed reported that they were "very upset." Finally, the children who had been exposed to domestic violence were significantly more likely to score higher on the Total Behavior Problems, Internalizing Problems, and Externalizing Problems scales of the Child Behavior Checklist than were the community-sampled children. This latter finding is consistent with previous literature (Baldry, 2003; Horton et al., 1999).

Although findings such as those of Ascione et al. (in press) and Gullone et al. (2004) provide strong support for the damaging association between the witnessing of abuse and children's cruelty toward animals, they are restricted to family violence samples. Given the recognition that children are continually exposed to both human-and animal-directed violence, the need for further research investigating the aforementioned associations among community-sampled individuals is apparent (Baldry, 2003).

Retrospective Studies

In response to the above mentioned gap in the literature, Flynn (1999, 2000a) surveyed 267 undergraduate students (84 males; 183 females), assessing their childhood histories involving the witnessing or committal of acts of animal cruelty. The results revealed 17.6% of the sample had perpetrated animal abuse, with males being nearly four times as likely as females to have engaged in such acts. Further, providing support for the proposed link between the childhood witnessing and perpetrating of animal cruelty, the majority (exact proportions were not specified in the publications arising from this research) of those who had perpetrated animal abuse had also witnessed others commit such acts (Flynn, 1999, 2000a).

To obtain a general measure of the psychological effect of experiencing animal cruelty, respondents in Flynn's (1999, 2000a) study were asked how much witnessing or perpetrating animal cruelty bothered them at the time of the first incident and how much it bothered them at the time of the survey. Those who witnessed others perpetrate animal cruelty were found more likely to be affected than those who actually perpetrated such acts. Seeing another person hurt or torture an animal had the most negative psychological impact, both at the time at which the act was witnessed and at the time at which individuals completed the survey.

Flynn (2000a) attempted to explain the above findings, speculating that children who engage in animal cruelty are likely to possess or develop certain characteristics (compromised levels of empathy) that enable them to be less affected by violence. The researcher further argued that individuals who witness animal cruelty often have no control over the act, a sense of helplessness likely to worsen the psychological impact.

In a similar study, Henry (2004) investigated the associations among (a) the witness of animal cruelty during childhood, (b) delinquency, and (c) attitudes toward the treatment of animals in a sample of 169 undergraduate students (77 males; 92 females). Approximately half (51%) of the participants had witnessed at least one act of animal cruelty. Further, 26% of the participants who reported having witnessed at least one instance of animal cruelty also reported having engaged in animal abuse, compared to only 10% of those who reported never having witnessed animal cruelty. This association between witnessing and perpetrating animal abuse was even stronger among those who reported having observed animal cruelty on more than one occasion.

Further, witnessing animal abuse was more strongly related to the observer's attitudes related to the treatment of animals than was the observer's actual participation in acts of animal cruelty. This effect was moderated by the gender of the observer. Specifically, males who observed animal cruelty presented a more callous attitude toward the treatment of animals; women who witnessed such acts exhibited greater sensitivity toward the treatment of animals. According to Henry (2004), an explanation for these findings may be that an individual who willingly associates with a perpetrator of animal abuse will most likely respond differently to observing animal cruelty, compared to an unwilling observer. In this regard, females may be more likely than males to be coerced into observing animal abuse—a finding that has been shown to predict subsequent emotional distress.

It is proposed that females may compensate against this distress (resulting from the abuse they witnessed) by treating animals with a heightened sense of compassion and nurturance. With regard to adolescent males, it has been argued that engaging in animal abuse while in the presence of peers may engender feelings of power, maturity, and control (Baldry, 2003; Flynn, 2000a). Hence, imitating the animal abuse they had willingly witnessed may be motivated by a perception that engaging in such activities will be viewed by peers as evidence of one's developing masculinity.

In a related study, Hensley and Tallichet (2005) investigated the association between childhood witnessing of animal cruelty and subsequent acts of animal abuse among a sample of 261 imprisoned males. Consistent with Henry's (2004) findings, participants who had witnessed animal cruelty were more

likely to have abused animals frequently. Further, those who witnessed either a friend or family member hurt or kill an animal, were significantly more likely to engage frequently in animal abuse, in comparison to those who witnessed another individual perpetrate such an act. These findings are congruent with Baldry's (2003) proposal that the risk of engaging in animal cruelty is significantly increased as a result of witnessing significant others engage in such acts.

Given that Hensley and Tallichet's (2005) sample was composed of male inmates, the generalizability of the findings is particularly limited. Furthermore, as with many of the studies reviewed above (Flynn, 1999, 2000a; Henry, 2004), the findings were based on retrospective reports. Although there is a vast amount of literature investigating the associations among current (or recent) levels of various forms of family violence (Ascione et al., in press; Gullone et al., 2004), researchers such as Ascione et al. (1997) have noted that there is a scarcity of research investigating the association between witnessing and engaging in animal cruelty among children sampled within the community. Furthermore, existing literature in this area has tended to focus on individuals' propensity to abuse animals and their witnessing of such abuse.

To date, no empirical studies have specifically investigated the relationship between observing animal cruelty and the observer's humane treatment of animals. Although existing research appears to confirm the assumption that witnessing animal abuse is associated with an increased propensity to treat animals callously, qualitative research, such as that reported by Arkow (1996), has revealed the inverse effect. Specifically, instances have been reported whereby children, as a direct consequence of the abuse they had witnessed, have become highly protective and caring animal lovers.

In response to this gap in the literature, the current study aimed to gain further insight into the association between adolescents' witnessing acts of animal abuse and their treatment toward animals, both positive and negative in nature. The study aimed to ascertain the following:

1. how frequently youths reported witnessing others abuse animals and to determine whom they witnessed engaging in such acts;
2. whether adolescents—who reported having witnessed animal abuse on at least one occasion—reported significantly higher animal cruelty scores

and significantly lower scores on the measure of humane treatment toward animals, in comparison to those who reported having never witnessed animal abuse; and
3. whether these associations differed depending on the frequency with which animal abuse was witnessed.

Method

Participants

Twelve secondary schools (1 Catholic girls' school, 1 Catholic boys' school, 10 co-educational government schools) participated in this research. The overall parental consent rate was 20%. A number of participating teachers attributed this low consent rate to students' commonly failing to return informed consent forms. All adolescents whose parents provided informed consent agreed to participate in the research.

The overall sample comprised 281 students (113 males; 168 females) ranging in age from 12 to 18 years (M = 14.83, SD = 1.71). Of the 281 participants, (a) 70.1% reported living within an intact nuclear family (biological mother, father, and siblings): (b) 9.6% reported living with their mother and siblings; (c) 1.4% reported living with their father and siblings; and (d) 18.9% endorsed the "Other" response. The majority of participants within this latter category indicated that a step-parent lived in their household.

Measures

Cruelty toward animals was assessed using the Dadds et al. (2004) Children and Animals Inventory (CAI), which is a self-report version of Ascione et al.'s (1997) Children and Animals Assessment Instrument (CAAI): Although the latter utilizes a semi-structured interview format, both measures assess nine theory-driven dimensions of cruelty:

1. severity;
2. frequency;
3. duration;
4. recency;

5. diversity (wild, pet, stray, and/or farm animals; invertebrates, cold-blooded vertebrates, and/or warm-blooded vertebrates);
6. sentience;
7. covert;
8. isolate; and
9. empathy (Ascione et al., 1997).

The CAI items are assessed on a Likert scale (with the exception of the last item, which is open-ended, requiring a written response). A sample CAI item is "Have you ever hurt an animal on purpose?" with the individual being required to endorse one of the following:

1. "Never,"
2. "Hardly ever,"
3. "A few times,"
4. "Several times," or
5. "Frequently."

Total CAI scores range from 0 (no instances of animal cruelty) to 39 (severe, chronic, and recent cruelty to a range of animals with the child showing no empathy). A sample consisting of 36 pairs of children and their parents was used in the preliminary study to validate the CAI. Youths were aged between 6 to 13 years (M = 11.4 years). Excellent internal consistency was demonstrated, with a Cronbach's alpha coefficient of .96. Good test-retest reliability (over a 1-week period) was shown, with a correlation coefficient of .75. Further, the validity of the measure was demonstrated by moderate to strong levels of agreement between the child and parent forms of the CAI.

A total of 330 youths, ranging in age from 6 to 13 years, participated in a second study designed to validate the CAI using a larger sample. A Cronbach's alpha coefficient of .96 was obtained. Furthermore, the convergent validity of the measure was demonstrated by statistically significant levels of agreement between parents' and children's reports of animal cruelty (boys: r = .32; girls: r = .43).

The version of the CAI completed by participants in the current study included two added questions to ascertain the following: (a) whether individuals had ever seen someone else hurt an animal on purpose, and if so, did they witness such an event "A few times," "Several times," or "Frequently"; and

(b) if they had witnessed someone else hurt an animal, was that person a "Stranger," "Friend," "Relative," "Parent," or "Brother or sister"? These added questions did not assess the category of animal harmed. The responses to these questions did not contribute to the total cruelty score.

Humane behavior toward companion animals was assessed using Thompson & Gullone's (2003) CTAQ. This measure consists of 13 items, each of which requires the individuals to indicate whether they "Often," "Sometimes," or "Never" engage in the particular activity specified with a companion animal. A sample item is "Give food or water to." Individuals with no companion animal are instructed to (a) answer in relation to other people's companion animals, (b) to imagine how they would behave if they had a companion animal, and (c) answer the items accordingly. Responses are scored such that higher scores reflect higher levels of treating animals humanely. Total CTAQ scores range from 0 to 13.

The CTAQ was initially validated with a sample of 25 boys and 36 girls ranging in age from 8 to 10 years (M = 9.26 years). Adequate internal consistency was demonstrated, with Cronbach's alpha coefficients being (a) .81 for the entire sample, (b) .74 for the boys, and (c) .85 for the girls. Demonstrating good test-retest reliability over a 5-week period, a Pearson's correlation coefficient of .64 was yielded for the entire sample. Coefficients of .63 were yielded for both the boy and girl sub-samples.

Moderately sized and significant correlations between the CTAQ and two validated measures of empathy were reported as providing support for the convergent validity of this measure. Specifically, a Pearson's correlation coefficient of .25 was obtained between the CTAQ and the Index of Empathy for Children and Adolescents (Bryant, 1982); a coefficient of .37 was obtained between the CTAQ and the Empathy subscale of the Social Skills Rating System (Gresham & Elliott, 1990).

Procedure

Prior to data collection, approval was obtained from the Monash University Ethics Committee, the Victorian Department of Education and Training, and the Victorian Catholic Education Office. In the 12 schools that agreed to participate, children whose parents provided informed consent-to-participate

permissions were provided with a brief oral explanation of the study, in addition to a participant's explanatory statement and consent form. Both oral and written explanations emphasized that all responses would be fully confidential and that participation was voluntary. Following this process, students completed the measures on a group basis.

Results

Prior to conducting the statistical analyses, the data were screened and cleaned. Following the appropriate transformation of data, descriptive statistics were calculated to ascertain the frequency with which participants reported witnessing animal abuse, in addition to determining whom they witnessed abusing an animal. A series of multivariate analysis of variances (MANOVAs) were then conducted to examine the relationship between witnessing animal abuse and one's treatment toward animals.

Descriptive Statistics

A total of 63 participants (22.4%; 22 males, 41 females) reported never having witnessed animal abuse. A total of 161 participants (57.3%; 61 males, 100 females) reported having witnessed abuse "A few times", and 49 (17.4%; 25 males, 24 females) reported "Several times." The remaining 8 participants (2.8%; 5 males, 3 females) reported "Frequently" witnessing animal abuse. It was found that

1. 165 participants (58.7%; 64 males, 101 females) had witnessed a stranger abuse an animal;
2. 95 (33.8%; 41 males, 54 females) had witnessed a friend;
3. 41 (14.6%; 18 males, 23 females), a relative;
4. 28 (10%; 12 males, 16 females), a parent; and
5. 48 participants (17.1%; 19 males, 29 females) reported witnessing a sibling abuse an animal.

Relationship between Witnessing Animal Abuse and One's Treatment of Animals

Prior to conducting the main statistical analyses, the correlation between animal cruelty and the humane treatment of animals was determined. A Pearson's

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product-moment correlation analysis yielded a coefficient of -.25 ($p < .001$), providing support for the proposal that youths who engaged in higher levels of animal cruelty engaged less frequently in humane behaviors with companion animals.

Congruent with the statistical methodology utilized by Henry (2004), a MANOVA was conducted to examine whether there were significant differences in levels of animal cruelty and humane treatment toward animals, between those who reported witnessing animal abuse on at least one occasion (those who witnessed animal abuse "A few times," "Several times," or "Frequently") compared to those who reported having never witnessed animal abuse. Gender was included in the analysis to determine any differences in scores between the male and female participants. Descriptive statistics for animal cruelty and humane treatment scores are presented in Table 1.

Table 1: Means (and Standard Deviations) for the CAI and CTAQ by Witnessing Status

Measure	Males		Females		Overall	
	NW *M* (*SD*)	W *M* (*SD*)	NW *M* (*SD*)	W *M* (*SD*)	NW *M* (*SD*)	W *M* (*SD*)
CAI	4.18 (6.37)	11.18 (7.95)	1.76 (3.75)	5.65 (7.24)	2.60 (4.91)	7.95 (8.01)
CTAQ	12.59 (5.86)	13.51 (4.42)	16.37 (4.52)	16.50 (4.49)	15.05 (5.30)	15.25 (4.69)

Note: NW = Never witnessed animal cruelty, W = Witnessed animal cruelty.

The results of the MANOVA revealed a significant main effect for gender for both the animal cruelty and humane treatment variables. Specifically, females obtained significantly lower animal cruelty scores than the male participants [F (1, 277) = 14.42, $p < .001$], and scored significantly higher than the males on the measure of humane treatment toward animals [F (1, 277) = 24.47, $p < .001$].

Although humane treatment scores did not significantly differ as a function of whether individuals did or did not witness animal abuse [F (1, 277) = 0.58, $p > .05$], a significant main effect for witnessing status was observed for the measure of animal cruelty. Specifically, those who witnessed animal abuse obtained significantly higher CAI scores in comparison to those who reported never having witnessed such abuse [F (1, 277) = 26.99, $p < .001$].

A series of MANOVAs was then conducted to explore whether treatment of animals differed depending upon who was witnessed engaging in animal

abuse. Descriptive statistics for animal cruelty and humane treatment scores are presented in Table 2.

Table 2: Means (and Standard Deviations) for the CAI and CTAQ by Witnessing Status and category of Individual Witnessed Abusing Animals

Who was witnessed	Males		Females		Overall	
	NW *M* (*SD*)	W *M* (*SD*)	NW *M* (*SD*)	W *M* (*SD*)[1]	NW *M* (*SD*)	W *M* (*SD*)[2]
Stranger						
CAI	11.39 (7.54)	8.61 (8.42)	5.28 (7.52)	4.31 (6.21)***	7.86 (8.08)	5.98 (7.43)*
CTAQ	12.76 (4.84)	13.77 (4.61)	15.78 (4.78)	16.92 (4.24)***	14.50 (5.01)	15.70 (4.64)
Friend						
CAI	7.42 (7.32)	14.02 (7.84)	3.48 (5.66)	7.26 (8.11)***	5.01 (6.62)	10.18 (8.64)***
CTAQ	13.33 (4.68)	13.32 (4.84)	16.75 (4.40)	15.87 (4.66)***	15.42 (4.79)	14.77 (4.88)
Relative						
CAI	9.04 (8.05)	13.89 (7.55)	4.15 (6.37)	8.13 (8.19)***	6.09 (7.46)	10.66 (8.34)***
CTAQ	13.17 (4.40)	14.17 (6.22)	16.63 (4.44)	15.43 (4.74)**	15.26 (4.73)	14.88 (5.40)
Parent						
CAI	9.27 (7.88)	14.42 (9.16)	4.12 (6.31)	10.19 (8.52)**	6.17 (7.41)	12.00 (8.89)***
CTAQ	13.34 (4.83)	13.25 (3.84)	16.63 (4.45)	14.94 (4.67)**	15.31 (4.87)	14.21 (4.34)
Sibling						
CAI	8.62 (7.71)	15.74 (7.75)	3.56 (6.10)	10.14 (7.20)***	5.60 (7.22)	12.35 (7.85)***
CTAQ	13.05 (4.80)	14.68 (4.15)	16.79 (4.44)	14.90 (4.45)**	15.28 (4.93)	14.81 (4.29)

Note: NW = Never witnessed animal cruelty, W = Witnessed animal cruelty.

[1] MANOVA outcomes investigating gender main effects, noted as: ** $p < .01$, *** $p < .001$, two-tailed.

[2] MANOVA outcomes investigating witnessing status main effects, noted as: * $p < .05$, *** $p < .001$, two-tailed.

As expected, and consistent with the previous MANOVA, significant gender main effects were observed for both the animal cruelty and humane treatment variables. Specifically, females obtained significantly lower animal cruelty scores than the male participants and scored significantly higher than the males on the measure of humane treatment. These trends were observed when participants reported witnessing a stranger, friend, relative, parent, or sibling abuse an animal.

No main effects for witnessing status were observed in relation to the measure of humane treatment toward animals. In contrast, significant main effects were observed for the measure of animal cruelty. Specifically, participants who observed either a friend, relative, parent, or sibling abuse an animal, reported significantly higher levels of animal cruelty, in comparison to

those who reported never having witnessed individuals belonging to these categories engage in animal abuse. In contrast, participants who observed a stranger abuse an animal reported significantly lower levels of animal cruelty, compared to those who had never witnessed a stranger abuse an animal.

A final MANOVA was conducted for only those 218 participants who reported having witnessed animal abuse. This analysis was conducted in an effort to ascertain whether individuals' treatment toward animals differed as a function of frequency of having witnessed animal abuse. The descriptive statistics for animal cruelty and humane treatment toward animals' scores by witnessing frequency (witnessed animal cruelty "A few times," "Several times," or "Frequently") are shown in Table 3.

Table 3: Means (and Standard Deviations) for the CAI and CTAQ by Frequency of Witnessing Animal Abuse

Frequency	Males		Females		Overall	
of	CAI	CTAQ	CAI	CTAQ	CAI	CTAQ
Witnessing	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
A few times	0.49 (7.84)	13.10 (4.48)	4.87 (7.06)	16.57 (4.62)	7.00 (7.83)	15.25 (4.86)
Several times	12.04 (8.45)	13.48 (3.85)	7.42 (6.97)	16.13 (4.18)	9.78 (8.03)	14.78 (4.19)
Frequently	15.20 (6.30)	18.60 (3.78)	17.33 (2.08)	17.00 (3.61)	16.00 (5.01)	18.00 (3.55)

No main effects for gender were revealed by this MANOVA. In contrast, a significant main effect for the frequency of having witnessed animal abuse was revealed for the measure of animal cruelty [F (2, 212) = 5.73, $p < .01$]. Post-hoc comparisons using the Tukey HSD test revealed that those who witnessed animal abuse "A few times" obtained significantly lower animal cruelty scores in comparison to those who "Frequently" witnessed violence of this nature.

Discussion

The current research has provided additional data in relation to the frequency of adolescents witnessing animal abuse, in addition to the associations between witnessing and engaging in animal-directed behaviors, both positive and negative.

As predicted, those who reported a history of having witnessed animal abuse on at least one occasion reported significantly higher levels of animal cruelty, in comparison to those who reported never having witnessed ani-mal abuse. Further, additional analyses revealed that participants, who reported witnessing (a) friend, (b) relative, (c) parent, or (d) sibling abuse an animal, reported significantly higher levels of animal cruelty, in comparison to those who did not witness individuals belonging to these categories abuse an animal. In contrast, participants who witnessed a stranger abuse an animal reported significantly lower levels of animal cruelty. No significant differences in humane treatment scores were observed between those who did and those who did not witness animal abuse. Finally, participants who had "Frequently" witnessed animal abuse obtained significantly higher animal cruelty scores in comparison to those who viewed such events "A few times."

The Witnessing of Animal Abuse

The results revealed that only 22.4% of the sample reported never having witnessed another individual harm an animal. The proportion of youths who reported having witnessed such acts (77.6%) was considerably higher than that reported by researchers such as Flynn (2000a) and Henry (2004), who reported that 45% and 51% (respectively) of the university students sampled in their studies had witnessed animal abuse on at least one occasion. These statistics provide evidence of the high proportion of youths from non-clinical populations who have witnessed another individual perpetrate acts of animal-directed violence.

More than half of the sample (57.3%) in the current study reported having witnessed animal abuse "A few times." It was revealed that 17.4% of participants witnessed animal abuse "Several times." The remaining 2.8% of the sample reported having witnessed abuse "Frequently." Hence, the majority of individuals who reported having witnessed animal abuse viewed such occurrences on a limited number of occasions. This finding is in contrast to previous empirical investigations based upon samples of children exposed to domestic violence. Youths from such samples have been reported continually to be threatened by, and exposed to, acts of animal cruelty commonly perpetrated against the family pet (Ascione, 1998, 2001; Ascione et al., 1997;

Baldry, 2003; Becker & French, 2004; DeViney et al., 1983; Duncan & Miller, 2002; Flynn 2000a, 2000b; Lerner 1999; Ponder & Lockwood, 2001).

The majority of participants (59%) in the current study had witnessed a stranger engage in animal cruelty. A large proportion of the sample (34%) reported having witnessed a friend abuse an animal. Substantial proportions of the sample reported having viewed a relative (15%), parent (10%), and sibling (17%) harm an animal. These latter findings are congruent with those of previous studies (Baldry, 2003; Henry, 2004; Hensley & Tallichet, 2005), in that they demonstrate the high incidence of youths witnessing animal abuse perpetrated by significant others.

However, the finding that 10% of the sample witnessed their parents harm an animal is considerably higher than Gullone et al.'s (2004) finding that not one mother within their community sample reported her child to have witnessed her partner hurt or kill a family pet. These findings, in part, may be due to the possibility that some of the mothers sampled by Gullone et al. were not aware of the full extent of their children's exposure to such violence. Furthermore, the relevant item in the current study assessed the witnessing of animal abuse perpetrated by either parent, as opposed to assessing violence toward the family pet as perpetrated by the mother's partner. Hence, these broader terms may have increased the number of participants who endorsed this item.

Gender Differences toward Animals

Consistent with previous literature (Dadds et al., 2004; Flynn, 1999, 2000a; Vidovic, Stetic, & Bratko, 1999), the male participants—compared to their female peers—reported significantly higher levels of animal cruelty and significantly lower levels of treating animals humanely. It has been suggested that these gender differences stem from females' tendency to possess higher levels of empathy than do males—a trait not only related to an increased tendency to engage in humane and nurturing activities with one's companion animals but also thought to serve as a protective factor against aggression (Dadds et al., 2004; Hastings, Zahn-Waxler, Robinson, Usher, & Bridges, 2000; Melson, Peet, & Sparks, 1991; Vidovic et al., 1999; Zahn-Waxler & Radke-Yarrow, 1990).

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The Association between Witnessing and Engaging in Animals Abuse

The hypothesized association between youths witnessing animal abuse and perpetrating acts of animal cruelty was also supported. Specifically, although a low level of animal cruelty was, in fact, reported by a number of participants who reported never having witnessed animal abuse, individuals who reported having viewed such violence on at least one occasion obtained significantly higher animal cruelty scores. This finding is congruent with the results of previous empirical studies (Flynn, 2000a; Henry, 2004; Hensley & Tallichet, 2005).

Further, individuals, who witnessed (a) friend, (b) relative, (c) parent, or (d) sibling abuse an animal, obtained significantly higher animal cruelty scores, compared to those who reported never having witnessed animal abuse as perpetrated by individuals composing these categories. These findings support Baldry's (2003) proposal that witnessing parents and peers abuse animals is a major risk factor with respect to the likelihood that children and adolescents will perpetrate subsequent acts of animal cruelty.

The above findings demonstrate that, to a significant degree, youths' cruelty toward animals can be attributed to their having learned such behaviors through observation (Ascione, 1993, 1998; Ascione et al., 1997; Baldry, 2003). It is equally likely, as proposed by a number of researchers (Becker & French, 2004; Henry, 2004; Hensley & Tallichet, 2005), that exposure to animal cruelty desensitizes youths. One can further speculate that witnessing animal abuse normalizes the behavior for the observer, potentially translating to a perception that such acts are socially acceptable.

Participants who witnessed a stranger harm or kill an animal obtained significantly lower animal cruelty scores, in comparison to those who reported never having witnessed a stranger engage in animal abuse. Considering the hypothesis that exposure to animal abuse can lead to a vulnerability toward violence via the observer identifying with the aggressor (Ascione, 1993), the current findings suggest that youths are less likely to imitate such acts when perpetrated by someone to whom they cannot relate. This suggests that the process of identification may be restricted to those whom the observer has significant emotional connection.

Furthermore, youths who witness a stranger abuse an animal are not only likely to be unwilling observers but also are likely to feel helpless with respect

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to their ability to intervene. Given that these factors have been shown to be associated with a heightened emotional impact as suffered by the observer (Flynn, 2000a; Henry, 2004), it is not surprising that the current findings demonstrate a significant negative association between witnessing a stranger abuse an animal and one's engagement in such behavior.

Congruent with Henry's (2004) findings, levels of reported animal cruelty appeared to increase as a function of having witnessed animal abuse on a higher number of occasions. Specifically, participants who "Frequently" witnessed animal abuse obtained significantly higher animal cruelty scores than those who witnessed abuse "A few times." Those who witnessed animal abuse "Several times" did not obtain significantly different scores from participants who endorsed either of the categories mentioned above. However, the ambiguity of these terms may have led to difficulty in accurately differentiating between them. Hence, the use of more specific categories ("1-3 times"; "4-10 times"; "More than 10 times") could be of value in future research.

Despite the general tendency for males to report higher levels of animal cruelty and lower levels of both empathy and the humane treatment of animals (compared to females), as documented by both previous research (Dadds et al., 2004; Flynn, 1999, 2000a; Vidovic et al., 1999) and the current study, these gender differences failed to reach significance once participants who reported never having witnessed animal abuse were omitted from the analyses. This finding suggests that witnessing animal abuse affects the propensity to treat animals either callously or humanely to a similar degree, regardless of gender.

The Association between Witnessing Animal Abuse and One's Humane Treatment of Animals

With regard to participants' humane treatment of animals, no significant difference was found as a function of witnessing animal abuse. Although this trend was statistically non-significant, it is interesting to note that both males and females who had witnessed animal abuse obtained higher humane treatment scores, in comparison to those who had never witnessed such abuse. These findings are partly congruent with those of Henry (2004), whose study revealed that only the female participants who witnessed animal abuse exhibited greater sensitivity regarding the treatment of animals.

Nonetheless, findings from the questionnaires used to assess animal cruelty (CAI) and the humane treatment of animals (CTAQ) in the current study suggest the following: Although adolescents—as a result of having witnessed animal abuse—may be more likely to mistreat, harm, or kill animals from a range of categories (wild; *pet*; stray; and farm animals), they appear to be no less likely to treat their *companion animals* with kindness and compassion.

It is noteworthy to mention the following: Although the CAI required participants in the current study to endorse both the categories of animals they had harmed (including pets) and number of animals harmed within these categories, these responses were summed, generating the prescribed composite scores ("Diversity across categories" and "Diversity within categories"). These composite scores were subsequently entered into the database. Hence, analyses that specifically investigated participants' cruelty toward companion animals could not be conducted using the current data set. Hence, future research utilizing data pertaining to specific animal categories would yield relevant findings.

Nonetheless, the proposal that youths appear to be no less likely to treat their animal companions with kindness and compassion as a result of having witnessed animal abuse is congruent with the findings of Arkow's (1996) study. Arkow reported that although the majority of research confirms the proposal that exposure to animal abuse desensitizes youth to violence, *some* children become more protective and caring companion animal lovers as a result of the abuse they have witnessed.

It is also plausible to suggest that some youths, who witness animal abuse and consequently display an increased propensity to harm or kill animals, may compensate by super-nurturing. They become extremely caring toward animals and show an unusual interest in tending to the needs of animals (Arluke, 2001)—their *companion animals*. Related to this, it is also important to consider the potential discrepancy between animal-directed attitudes and behaviors. It is possible that a child who willingly witnesses animal abuse will continue to care for the family pet in a humane way, perhaps as a result of the bond the child has developed with the animal. There may also be species-specific attitudes that need to be taken into account. Some children may abuse cats, yet would never consider harming dogs. More

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in-depth investigations into the relationship between attitudes and behaviors would be most valuable in furthering our understanding into these complex associations.

Limitations and Suggestion for Future Research

Several limitations of the study require mention. First, given the sensitive nature of the variables measured, it is highly likely that some adolescents' responses were biased by social desirability responding. Hence, the use of a lie scale could be of considerable value with respect to increasing the validity of data yielded by future research in this area. In addition, the low level of parental consent to some extent may have affected the representativeness of the findings It may be that the sample was under-representative of more dysfunctional/violent families. Some parents may have denied their child's participation, due to an awareness that a family member has engaged in animal cruelty (an incident potentially including their child). Given these possible limitations in representativeness, replication is necessary before one can be conclusively confident in the current findings.

Further, as previously discussed, it would be useful for future research to incorporate information regarding the categories/species of animals (insects, wildlife, stray animals, and companion animals) abused by the individual and the categories/species of animals the individual witnessed being abused. Such data would enable investigation into whether the category of animal witnessed being abused plays a role in predicting which category(ies) of animals the individual may subsequently harm.

Conclusion

Notwithstanding the above limitations, the current study addressed several shortcomings of existing research that has investigated the relationship between the witnessing of animal abuse and the observer's treatment of animals. Its strengths include the concurrent nature of self-reports as opposed to retrospective reporting. A further strength relates to the reports having been obtained from a community sample of adolescents, as opposed to a specifically defined group (youths within violent homes).

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Taken together, the findings provide strong support for the link between witnessing animal abuse and the perpetration of animal cruelty among this sample. That is, those who reported having witnessed animal abuse obtained significantly higher animal cruelty scores than those who did not. Furthermore, the strength of this association increased as respondents reported having witnessed such acts on a higher number of occasions. Hence, the damaging effects of witnessing animal abuse appear to be cumulative in nature. On a more positive note, however, the current findings also provide evidence to suggest that youths are no less likely to treat their companion animals humanely as a result of having witnessed animal abuse.

Given the high frequency with which youths are exposed to animal abuse as perpetrated by individuals within their familial and social environments, it is proposed that positive influences such as peer mentors and school-based interventions may be of considerable value in counteracting these negative influences. Given that the influence of peers is particularly strong during adolescence, one can anticipate that such interventions would have a cumulative effect, as the perception of animal abuse potentially would be altered throughout the school. Such interventions would aim to promote the notion that abusing a weaker and defenseless being is a primitive and cowardly act.

Furthermore, although it has long been hypothesized that childhood animal cruelty may be a sign of a dysfunctional family, the prevalence of adolescents from this non-clinical population having witnessed not only family members but also strangers abuse animals, provides evidence to suggest that animal cruelty is a more widespread phenomenon than previously thought. Further, given that abusing animals is just one example of an externalizing behavior associated with exposure to either human- or animal-directed violence during childhood and adolescence, the substantial risk to society as a whole is of considerable concern and highlights the need for further research and intervention.

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