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Tails of Laughter: A Pilot Study Examining the Relationship between Companion Animal Guardianship (Pet Ownership) and Laughter

ABSTRACT

A pilot study examined the relationship in daily life between companion animal guardianship (pet ownership) and peoples' laughter. The study divided participants ($n = 95$) into 4 mutually exclusive groups: dog owners, cat owners, people who owned both dogs and cats, and people who owned neither. For one day, participants recorded in "laughter" logs the frequency and source of their laughter and the presence of others when laughing. Dog owners and people who owned both dogs and cats reported laughing more frequently than cat owners, as did people who owned neither. The most frequent source of laughter was spontaneous laughter resulting from a situation. People who owned both dogs and cats reported most frequent spontaneous laughter resulting from an incident involving a pet. Dog owners reported less; cat owners, the least. Dog owners and people who owned both dogs and cats reported laughing more frequently in the presence of their pets than did cat owners. Findings suggest a complex relationship between pet ownership and laughter. Dogs may serve as friends with whom to laugh or their behaviors may provide a greater source of laughter.

Research on companion animals (pets) has revealed a strong bond between humans and their pets as well as many and varied benefits of having a pet.

These benefits range from positive impacts on health and wellness (Allen, Blascovich, Tomaka, & Kelsey, 1991; Anderson, Reid, & Jennings, 1992; Friedman, 2000; Friedmann, Katcher, Lynch, & Thomas, 1980; Friedman, Katcher, & Meislich, 1980; Friedman & Thomas, 1995; Katcher, 1982; Serpell, 1991; Siegel, 1990) to enhanced feelings of life satisfaction and well being (Albert & Bulcroft, 1988; Budge, Spicer, Jones, & St. George, 1998; Cain, 1985; Cowles, 1985; Gosse & Barnes, 1994; Katcher, 1981; Katcher, 1989; Sable, 1995). Research on laughter has demonstrated the social nature of laughter in both humans (Martin & Kuiper, 1999; Nwokah, Hsu, Dobrowolska, & Fogel, 1994) and nonhumans (De Waal, 2000; Knutson, Burdgorf, & Panksepp, 1998; Panksepp & Burgdorf, 1999) as well as the beneficial effects of laughter (Kuiper & Martin, 1998; White & Winzelberg, 1992).

No research, however, has examined the role of pets in laughter, serving either as a stimulus for laughter or as a surrogate human with whom to laugh. The current research is a first attempt to examine the relationship between the guardianship (ownership), or presence, of pets and laughter.

Pets and Well Being

Evidence of pet-keeping dates to antiquity (Davis & Valla, 1978; Halliday, 1978). Today, pets seem to play an especially valued role in the family, providing an important source of social support for many individuals (Albert & Bulcroft, 1988; Beck & Katcher, 2003; Cain, 1985; Katcher, 1981). Research suggests that many people are strongly attached to their pets, perceive their pets as friends, or as part of the family, and report talking to, and confiding in, their pets (Albert & Bulcroft, 1988; Cain, 1985; Cowles, 1985; Gosse & Barnes, 1994; Katcher, 1981; Katcher, 1989). Consistent with these findings, Sable (1995) proposed that a pet can serve as a significant attachment figure for a person, providing an individual with companionship; affection; and the opportunity to feel needed. The human-animal bond can be so strong that the loss of a pet may be as devastating as the loss of a human significant other (Planchon, Templer, Stokes, & Keller, 2002).

Research conducted by Bonas, McNicholas, and Collis (2000) more closely examined the specific types of social support that people derive from their human and nonhuman relationships. Participants were asked to describe and

evaluate the types of social support they derive from their human and non-human relationships. Although human relationships scored higher overall in terms of aggregate support, pet dogs outperformed humans in a number of areas. Pet dogs scored higher than humans on their ability to provide “reliable alliance,” “nurturance,” and “companionship.” Cats, although they scored lower than dogs, were ranked higher than other pets and similar to people in their ability to provide reliable alliance and nurturance. Humans outperformed dogs only in ability to provide “instrumental aid” and “intimacy.” Not surprisingly, participants reported far less conflict in their relationships with pets than in their relationships with other people.

In summary, research on the human-nonhuman animal bond suggests that pets can serve as surrogate humans by providing an attachment figure, support, and companionship. Taken together, these findings suggest that pets have both perceived and actual benefits and that dog owners may experience more benefits from their pets than do cat owners.

The Occurrence and Benefits of Laughter

Laughter, once thought to be uniquely human, has been observed in other mammals (Panksepp & Burgdorf, 1999; Provine, 1996). In both chimpanzees and rats, laughter occurs in response to being tickled and during social play (DeWaal, 2000; Knutson et al., 1998; Panksepp & Burgdorf, “The Mouse,” 2005). Using recording equipment for ultrasonic sounds, Knutson, et al. and Panksepp and Burgdorf have recorded high frequency, laughter-type chirping from rats when rats are anticipating play—in response to tickling by humans—and during social play among rats. Preliminary research by Simonet (Milius, 2001) suggests dogs may also laugh and that this laughter, when heard by other dogs, prompts playfulness. These researchers and others (Nwokah, et al., 1994; Owren & Bachorowski, 2003; Panksepp, 2000) posit that laughter may induce positive affect and strengthen social bonds between mammals.

Similarly, research examining the natural occurrence of laughter among people suggests a social component to laughter (Martin & Kuiper, 1999; Provine & Fischer, 1989). Martin and Kuiper examined the natural occurrence of laughter in everyday life by asking community members to keep a daily laughter record for 3 days, recording source of laughter and presence of others.

Respondents reported an average of 18 incidents of laughter per day, with frequency of laughter ranging from 0 to 89 incidents per day. The majority of laughter incidents resulted from laughter in response to a spontaneous situation, specifically, something the individual or someone else said or did or something that happened to the individual or someone else. Less frequent sources of laughter were the mass media, a recalled event, or a memorized joke. The majority of laughter, almost 90%, occurred in the presence of others rather than when alone.

Research by Smoski & Bachorowski (2003) suggests that individuals are more likely to laugh in response to the laughter of a friend versus a stranger. These researchers examined the laughter of participants as they played brief games. Participants were partnered either with a stranger or with a friend. Differences in “antiphonal” laughter, laughter that occurs during or immediately after a social partner’s laugh, were observed. Overall, antiphonal laughter occurred more frequently in friend dyads than in stranger dyads. In addition, in mixed sex dyads, females produced more antiphonal laughter than did their male partners; friends produced more antiphonal laughter than did strangers. The findings of this research suggest that antiphonal laughter may reflect a mutually positive relationship between two people and serve to reinforce shared, positive, affective experiences.

Taken together, the research on laughter suggests a strong social component to laughter and suggests that laughter is more likely to occur in the presence of others, especially in response to a friend’s laughter. Laughter is more likely to result from a spontaneous situation, specifically, something an individual or another did or said rather than from sources such as the media or a canned joke.

Present Research: Pets and Laughter

First, the research on laughter suggests a social component to laughter. People are more likely to laugh in the presence of others than when alone. Given that people view their pets as friends or family members (Albert & Bulcroft, 1988; Cain, 1985; Cowles, 1985; Gosse & Barnes, 1994; Katcher, 1981; Katcher, 1989), one might speculate that pets could serve as a surrogate human companion with whom to share a laugh. After all, if people talk with their pets,

why not laugh with them? Both speech and laughter can serve as means to gain attention and communicate affection. Research by Mitchell (2001) suggests that there are many similarities between how Americans talk to their dogs and to their infants. Specifically, both forms of communication involve the following:

1. talking with someone who is less able to share in the discussion;
2. talking with someone who is less attentive;
3. using the communication as a way to gain the other's attention or control behavior; and
4. using the communication as a means for conveying friendliness or affection.

Research by Nwokah et al. (1994) suggests that two reasons mothers laugh with their infants are to gain their attention and to convey affection for them. Given the similar purposes for which talking and laughing are used in communicating with infants, perhaps laughter serves a similar purpose in human-pet communication: a means for gaining a pet's attention or to show affection for the pet.

A second aspect of laughter is that people are more likely to laugh in response to a spontaneous situation rather than the media, recalled event, or a memorized joke. A pet's behavior may provide the stimulus for laughter. De Waal (2000) provides anecdotal evidence of laughing in response to the laughter of chimpanzees at the Yerkes primate center, suggesting that laughter may result from spontaneous situations created by animals. In addition, as part of a study that investigated the relationship between pet behavior and attachment to a pet, Serpell (1996) examined owners' perceptions of their pets' behaviors. Results revealed that dogs—compared to cats—were rated as being more playful, excited, and active. Thus, it is possible that a pet's real or perceived playfulness and activity will create spontaneous situations that result in laughter. Given Serpell's results, it is predicted that the occurrence of laughter in response to a pet's behavior would be more common for dog owners than for cat owners.

As stated previously, this study provides a preliminary look at the role of pets in the natural occurrence of laughter by comparing everyday laughter in pet and non-owners of pets. Because the majority of research examining

the benefits of pets has focused on people who own dogs or cats, the current research examines the relationship between laughter and pet ownership among four mutually exclusive groups of people: (a) dog owners, (b) cat owners, (c) people who own both dogs and cats, and (d) people who own neither dogs nor cats.

Given that the research on pets suggests that dogs provide many social and emotional benefits to their owners and that dog owners tend to benefit more from their pets than do cat owners, it is hypothesized that dog owners will report laughing more frequently than either cat owners or people who own neither dogs nor cats.

Consistent with previous research suggesting that laughter is more likely to result from a spontaneous situation than from other sources, it is predicted that both pet owners and non-owners of pets will report greater frequency of laughter from a spontaneous situation than from other sources such as the media, a joke, or past event. To examine more closely the role that pets play in spontaneous laughter, spontaneous laughter resulting from incidents involving pets will be examined. It is predicted that dog owners will report more frequent laughter resulting from incidents involving pets than will cat owners.

Among pet owners, the present study also examines frequency of laughter in the presence of pets. It is hypothesized that dog owners will report laughing in the presence of their pets significantly more frequently than will cat owners.

Given that the research on the benefits of cat ownership are mixed and given the paucity of research on people who own both dogs and cats, directional hypotheses comparing these groups to each other and to people who own neither dogs nor cats are not put forward. In addition, directional hypotheses comparing dog owners to people who own both dogs and cats are not made.

Methods

Procedure

Pet owners and non-owners of pets were recruited through the help of a veterinary clinic's staff, colleagues, and friends. Survey packets were distributed

to 200 people who agreed to participate in the study and were 18 years of age or older. Each survey packet contained the following:

1. a cover letter explaining the purpose of the survey;
2. contact information for the researcher;
3. a pre-addressed, postage-paid envelope for returning the survey; and
4. a debriefing statement.

Because laughter may have both positive and negative causes and both positive and negative consequences, the debriefing statement encouraged participants who had been negatively affected by laughter to contact a local counseling center. Then, the telephone numbers for local counseling centers were provided. Participants were asked to keep a laughter record for one day and respond to several demographic questions. Responses were anonymous. Participants did not receive any incentives or remuneration for completing the survey.

Participants

Ninety-five surveys (47.5% of the distributed surveys) were completed and returned by mail. Based on responses to questions regarding pet ownership, an individual was placed in one of four mutually exclusive categories of pet ownership: (a) dog owner, (b) cat owner, (c) neither dog nor cat owner, and (d) owner of both dogs and cats. Thirty-three respondents reported owning one or more dogs (dog owner), 18 reported owning one or more cats (cat owner), 16 reported owning both dogs and cats (both), and 28 reported owning neither a dog nor a cat (neither).

Measures

Daily laughter record. The laughter log and directions provided were based on the laughter log developed and used by Martin and Kuiper (1999), who had expanded on the coding system previously used by Graeven and Morris (1975). For the present research, two additions to Martin and Kuiper's log were necessary:

1. the addition of pets as a category for source of laughter; and
2. the addition of pets as a category for who was present when laughter occurred.

Directions for the laughter log stated that the purpose of the survey was to find out how frequently people laugh in an ordinary day and what makes them laugh. Participants were asked to carry the log with them throughout the day and record all incidences (a) in which they laughed, (b) what made them laugh, (c) how hard they laughed, and (d) who was present.

To facilitate recording, each page of the laughter record was divided into four columns. The first column of each row was labeled *Laughter incident* and contained consecutive numbers to be used throughout the day. The second column, labeled *What made you laugh?*, was used to determine source of laughter. Participants could select from 7 source options:

1. *Mass Media* (something on television, in a movie, comic, magazine);
2. *Self* (spontaneous laughter emerging from something you said or did);
3. *Person* (spontaneous laughter emerging from something another person said or did);
4. *Pet* (spontaneous laughter emerging from something a pet did);
5. *Joke* (laughter arising from a memorized joke told by you or someone else);
6. *Past Event* (you or someone else remembered or talked about a past experience or event); and
7. *Other*.

In the third column, participants recorded *Strength of laughter*:

1. *I just smiled*;
2. *I laughed a little*; and
3. *I laughed a lot*.

In the fourth column, participants indicated *Who was present?* Options were

1. Alone,
2. Others, and
3. Pets.

For both *What made you laugh?* and *Who was present?* columns, participants were instructed that they could circle more than one response.

Demographic variables. Participants were asked to report their sex and age as well as indicate the type of day on which they recorded their laughter: (a) work day, (b) regular day off, (c) holiday, (d) sick or personal day, or (e) other.

Sixty-four females and 31 males completed surveys. Because pet ownership and responses to pets may be related to gender, gender was included as an independent variable in all analyses.

Table 1 provides the distribution of males and females by age group for each category of pet ownership. Fifty-five people (18 dog owners, 12 cat owners, 3 both, and 22 neither) indicated the survey was completed on a work-day. Twenty-nine (9 dog owners, 5 cat owners, 10 both, and 5 neither) indicated they completed the survey on a regular day off. Nine (5 dog owners, 1 cat owner, 2 both, and 1 neither) reported they completed the survey on a holiday. Two (1 dog owner and 1 both) selected the category, Other.

Table 1: Distribution (Frequency and Percentage) of Males and Females by Age Group for Each Category of Pet Owner

Gender	Age (yrs)	Type of Pets				Total n, %
		Dogs n, %	Cats n, %	Both n, %	Neither n, %	
Male	18-29	5, 15.2%	2, 11.1%	1, 6.3%	0, 0.0%	8, 8.4%
	30-39	0, 0.0%	3, 16.6%	0, 0.0%	1, 3.6%	4, 4.2%
	40-49	3, 9.1%	1, 5.5%	1, 6.3%	3, 10.7%	8, 8.4%
	50-59	0, 0.0%	1, 5.5%	1, 6.3%	4, 14.3%	6, 6.3%
	60-69	1, 3.0%	2, 11.1%	1, 6.3%	0, 0.0%	4, 4.2%
	70+	0, 0.0%	0, 0.0%	0, 0.0%	1, 3.6%	1, 1.0%
Female	18-29	11, 33.3%	1, 5.5%	4, 25.0%	11, 39.3%	27, 28.4%
	30-39	2, 6.1%	1, 5.5%	3, 18.8%	3, 10.7%	9, 9.5%
	40-49	5, 15.2%	1, 5.5%	1, 6.3%	1, 3.6%	8, 8.4%
	50-59	4, 12.1%	6, 33.3%	2, 12.5%	4, 14.3%	16, 16.8%
	60-69	2, 6.1%	0, 0.0%	1, 6.3%	0, 0.0%	3, 3.2%
	70+	0, 0.0%	0, 0.0%	1, 6.3%	0, 0.0%	1, 1.0%
Total		33, 100%	18, 100%	16, 100%	28, 100%	95, 100%

Results

Frequency of Laughter

Because the focus of this study was on overt laughter—not on smiling—the procedures used by Martin and Kuiper (1999), who also examined overt laughter, were followed. Thus, results were based only on incidences of humor

in which the participant reported laughing either a little or a lot. For each participant, a total frequency of laughter score was calculated by tallying all the instances in which the individual reported laughing either a little or a lot. The total frequency of laughter ranged from 0 to 83 ($M = 19.41$, $SD = 17.09$). This mean value and range are similar to the overt laughter reported by Martin and Kuiper.

A 4-Pet Ownership (dog owner, cat owner, both, or neither) X 2 Sex (Male vs. Female) ANOVA, with total frequency of laughter as the dependent variable, was conducted. Results revealed a significant main effect for Pet Ownership $F(3, 87) = 4.18$, $p < .01$. There were no other significant main effects or interactions ($ps > .05$). Table 2 provides the cell sizes, means, and standard deviations for total frequency of laughter as well as the two other dependent variables: spontaneous laughter involving a pet and laughter in the presence of a pet.

Consistent with predictions, dog owners reported laughing significantly more frequently than cat owners $t(49) = 3.29$, $p < .01$. People who own both dogs and cats reported laughing significantly more frequently than cat owners $t(32) = 2.32$, $p < .05$. People who own neither dogs nor cats also reported laughing significantly more frequently than cat owners $t(44) = 2.17$, $p < .05$. Contrary to predictions, dog owners did not laugh significantly more frequently than people who own neither dogs nor cats $t(59) = 1.65$, $p = ns$. People who own both dogs and cats did not differ in total frequency of laughter from people who own neither dogs nor cats $t(42) = 0.12$, $p = ns$.

Table 2: Relationship between Type of Pet Owned and Frequency of Laughter

Type of Pet	n	Total Frequency of Laughter		Spontaneous Laughter Situation Involving Pet		Laughter in Presence of Pet	
		M	SD	M	SD	M	SD
Dogs	33	26.03 _a	20.36	1.94 _a	2.18	5.61 _a	6.81
Cats	18	9.61 _b	7.44	0.78 _b	1.17	1.11 _b	1.94
Both	16	18.81 _a	14.93	5.44 _c	9.32	8.63 _a	10.22
Neither	28	18.25 _a	15.73	—	—	—	—
Total	95	19.41	17.09	2.46	5.05	5.12	7.39

Note. Means in the same column with different subscripts differ at $p < .05$

Source of Laughter

In order to examine source of laughter, participants' responses to *What made you laugh?* initially were coded into 5 source categories:

1. mass media;
2. spontaneous situation;
3. joke;
4. past event; or
5. other.

Spontaneous situation was calculated by totaling the incidences in which an individual indicated that the source of the spontaneous laughter stemmed from three sources: (a) something the individual said or did; (b) something another person said or did; something a pet did; or any combination of those three sources. To examine the relationship between pet ownership and sources of laughter, a 4-Pet Owner (Dog, Cat, Both, Neither) X 2 Sex (Male vs. Female) X 5 Source (Media, Situation, Joke, Past Event, or Other) repeated measures MANOVA was conducted. Pet owner and sex are between subjects variables; source is a within subjects variable. Results reveal significant main effects for Pet Ownership $F(3, 87) = 4.18, p = .01$ and Source $F(4, 84) = 20.36, p < .01$. There were no other significant main effects or interactions ($ps > .05$).

Regarding the main effect for Pet Ownership, as stated previously, dog owners and people who own both dogs and cats reported laughing significantly more frequently than cat owners. People who own neither dogs nor cats laughed significantly more frequently than did cat owners.

Regarding the main effect for source of laughter, planned comparisons revealed that participants reported laughing significantly more frequently in response to a spontaneous situation ($M = 12.49, SD = 11.78$) than to the media ($M = 4.23, SD = 5.45$), $t(94) = 7.79, p < .01$, a joke ($M = 1.12, SD = 1.70$), $t(94) = 9.78, p < .01$; past event ($M = 1.25, SD = 2.05$), $t(94) = 9.81, p < .01$; or something other ($M = 0.31, SD = 1.26$), $t(94) = 10.27, p < .01$. This pattern is similar to that reported by previous researchers (Mannell & McMahon, 1982; Martin & Kuiper, 1999; Provine & Fisher, 1989; Provine, 1993).

Given that participants reported laughing more in response to a spontaneous situation than any other category and that the focus of the research was examining the relationship between pet ownership and laughter, the source of

spontaneous laughter was further examined. Source of spontaneous laughter was subdivided into two categories:

1. spontaneous laughter arising from a situation that included a pet (something pet did or an interaction involving a pet with self, pet with other person, or pet with self and other); and
2. spontaneous laughter arising from a situation that did not include a pet (self, person, or self and person).

Next, to examine differences between pet owners and non-owners of pets in laughter resulting from a spontaneous situation that did not involve a pet, a 4-Pet Owner (Dog, Cat, Both, Neither) X 2 Sex (Male vs. Female) ANOVA with Spontaneous Laughter resulting from situations not involving a pet as the dependent variable was conducted. There were no significant main effects or interactions ($ps > .05$).

Then, a 3-Pet Owner (Dog, Cat, Both) X 2 Sex (Male vs. Female) ANOVA with Spontaneous Laughter resulting from situations involving a pet as the dependent variable was conducted to examine differences among pet owners in laughter resulting from a spontaneous situation involving a pet. There was a significant effect for Pet Owner $F(2, 61) = 7.73, p < .01$. People who own both dogs and cats reported laughing significantly more frequently from situations involving pets than did either dog owners $t(47) = 2.06, p < .05$ or cat owners, $t(32) = 2.11, p < .05$, who differed significantly from each other $t(49) = 2.10, p < .05$.

Frequency of Laughter and the Presence of Pets²

To examine the relationship between pet presence and frequency of laughter among pet owners, a 3-Pet Owner (Dog, Cat, or Both) X 2 Sex (Male vs. Female) ANOVA with Total Frequency of Laughter in the presence of pets (pet present or both pets and others present) as the dependent variable was conducted. There was a significant effect for Pet Owner $F(2, 61) = 5.63, p < .01$. Planned comparisons revealed that when pets were present, dog owners and people who own both dogs and cats reported laughing significantly more frequently than did cat owners, $t(49) = 2.73$ and $t(32) = 3.07, ps < .01$, respectively. There were no other significant effects.

Discussion

The results of the present research reveal a complex relationship between pet ownership and laughter. The initial examination of who laughs most frequently revealed that people who owned dogs and people who owned both dogs and cats reported more frequent laughter than did cat owners. In addition, people who owned neither dogs nor cats reported more frequent laughter than did cat owners. The remaining discussion offers possible reasons as to why dog owners report higher rates of laughter and why cat owners report lower levels of laughter.

An examination of the role that pets play in generating spontaneous laughter revealed that people who own dogs and people who own both dogs and cats reported more spontaneous laughter resulting from incidents involving a pet than did cat owners. In contrast, an examination of spontaneous laughter from incidents not involving pets did not reveal any significant differences between dog owners, cat owners, people who own both dogs and cats, and people who own neither dogs nor cats. Taken together, the findings on laughter in response to a spontaneous situation suggest that it is when pets are present (versus absent) that differences between people who own dogs and people who own only cats occur. This finding may be related to owners' perceptions of their pets. As mentioned previously, Serpell (1996) reported that dog owners perceive their dogs as being more playful, active, affectionate, and excitable than cat owners perceive their cats to be. These differences in behavior, whether real or perceived, may provide the basis for differences in laughter between people who own dogs and people who only own cats. Simply put, a dog's behavior may give people more to laugh at. An alternative explanation is that dog owners have a greater need than do cat owners to gain their pet's attention, control their pet's behavior, and use laughter to do this. As mentioned previously, one reason people talk to their dogs is to gain their dogs' attention and control their behavior (Mitchell, 2001). Dog owners, like mothers of infants (Nwokah, Hsu, Dobrowolska, & Fogel, 1994), may use laughter as a means for gaining their dogs' attention.

Research on laughter suggests that laughter has an important social component. Because many pet owners view their pets as friends or family, the study examined the relationship between the presence of pets and frequency of

laughter. The results suggest that dog owners and people who own both dogs and cats laugh more frequently in the presence of their pets than do cat owners. Either negative attitudes toward cats or a cat's own behavior may underlie this difference. Serpell (1996) reported that dog owners perceive their dogs to be friendlier, more approachable to strangers, and less aggressive toward people they know than cat owners perceive their cats to be. Thus, dogs, by their perceived or actual behavior, may create a welcoming atmosphere that is conducive to laughter in their presence. An alternative explanation may be that people who own only cats have a stronger preference for quiet than people who own dogs and, consequently, prefer to express themselves using quieter methods such as smiling. Future research should examine the relationship between pet ownership and facial expressions.

This research provides a first look at the relationship between pets and laughter. The results suggest that dog owners, whether they own only dogs or both dogs and cats, laugh more frequently than do cat owners; laugh more from incidents involving their pets than do cat owners; and laugh more frequently in the presence of their pets than do cat owners. Contrary to previous findings that cat owners fare as well as, or better than, non-owners of pets, the current research suggests that when it comes to laughter, cat owners laugh less frequently than do people who own neither dogs nor cats.

One limitation of the current research is that most of the survey respondents completed the questionnaire on a work-day. Consequently, time spent with pets was probably limited. In addition, the amount of time spent alone, with pets, and with others was not measured. Further research on the role of pets and laughter should control for, or measure, these variables so that appropriate comparisons can be made. Another limitation of the study results from the small sample size and correlational nature of the study. The current findings need to be untangled to better understand the relationship between pet ownership and laughter. A study with a much larger sample size would facilitate examining more thoroughly the relationship between laughter, type of pet, pet's age, length of time pet owned, and participant characteristics such as age, marital status, number and age of children, and relevant personality dimensions.

Previous research suggests that people are more likely to laugh in the presence of others than when alone. Given that many people see their pets as

friends, future research should compare frequency of laughter when alone, with a pet, and with a human friend. Do pets in their role as friend or companion provide someone with whom to share a laugh?

Previous research also suggests that people are more likely to laugh in response to the laughter of a friend than that of a stranger. As mentioned previously, De Waal (2000) reported laughing in response to the laughter of chimpanzees at Yerkes. Dogs are also reported to laugh and to use laughter to elicit play behavior in other dogs. Do humans recognize the laughter of their dogs? And, if yes, do they respond to their dog's laughter with their own laughter? Perhaps dog owners laugh more than cat owners because they are laughing in response to their dogs' laughter. Do dogs use laughter to elicit play in humans? Do dogs and cats respond in any way to human laughter? And, though there have been no empirical reports so far, do cats laugh? And if they do, do humans respond to a cat's laughter?

Conclusion

Finally, similar to the procedures of Mitchell (2001) and of Nwokah et al. (1994), observational research examining the natural occurrence of laughter in human-animal dyads should be conducted to determine the function of laughter. Do humans, when interacting with their pets, use laughter in a manner similar to language, to gain a pet's attention, to communicate affection, or for some other reason?

Laughter is a social phenomenon. Previous research has focused on the role laughter plays within a species to promote bonding. Although the current research focuses on the relationship between pets and everyday laughter, it raises the question: Can laughter serve, as a form of interspecies communication, to strengthen social bonds and express positive affect between members of different species?

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Notes

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The author would like to thank the veterinarians and staff at the Haskell Valley Veterinary Clinic for their assistance in distributing the surveys as well as Amy Roberts and Theresa Welte for their assistance in data entry.

- ² In order to compare the results of the present research with previous research regarding the presence of others and laughter, a 4 Pet Ownership (Dog, Cat, Both, Neither) X 2 Sex (Male vs. Female) X 2 Presence of Others (Alone vs. Other People Present) MANOVA was conducted. Pet Ownership and Sex are between subjects variables and Presence of Others is a within subjects variable. Results revealed a main effect for Presence of Others, $F(1, 87) = 16.10, p < .01$. Consistent with previous research people were significantly more likely to laugh in the presence of others ($M = 12.60, SD = 14.57$) than when alone ($M = 2.83, SD = 3.79$). There was also a significant main effect for pet ownership $F(3, 87) = 3.50, p < .05$. Consistent with results presented previously, dog owners and people who owned both dogs and cats laughed significantly more frequently than cat owners. People who owned neither dogs nor cats laughed significantly more frequently than cat owners. There were no other significant main effects or interactions.

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