

Characteristics and Antecedents of People Who Hoard Animals: An Exploratory Comparative Interview Study

Gail Steketee and Amanda Gibson
Boston University

Randy O. Frost
Smith College

Janelle Alabiso
Boston University

Arnold Arluke
Northeastern University

Gary Patronek

Animal Rescue League of Boston and Hoarding of Animals Research Consortium

Currently, case studies and media reports provide the only descriptive information available to understand what distinguishes hoarding of animals from nonhoarding animal ownership. This poorly understood problem appears to be associated with substantial mental health difficulties. The present study investigated characteristics and antecedents that might explain hoarding behaviors. Sixteen people who fit criteria for hoarding of animals and 11 nonhoarding controls who owned large numbers of animals participated in semistructured interviews that were analyzed using somewhat atypical qualitative and quantitative methods. The interviews focused on demographic information, history of animal contact, social history, insight into physical and mental health issues, collecting behaviors, and beliefs and emotions associated with animals. Descriptive statistics and qualitative analyses were used to examine differences between hoarding and nonhoarding groups and to capture distinguishing themes and patterns. Both groups were well matched in demographic variables and were mainly White women of middle age; the average number of animals owned was 31. Thematic content common to both groups was stressful life events (both childhood and adult), strong emotional reactions to animal death, strong caretaking roles and attitudes toward animals, a tendency to rescue animals, and intense feelings of closeness or attachment to animals. Themes found significantly more often among animal hoarding participants than controls included problems with early attachment, chaotic childhood environments, significant mental health concerns, attribution of human characteristics to animals, and the presence of more dysfunctional current relationships. These themes are elaborated and discussed with regard to potential models for understanding hoarding of animals.

Keywords: hoarding, animal collecting, animal collectors, mixed methods, qualitative analysis

Most of what is known about people who hoard animals comes from news reports or clinical case studies (Hoarding of Animals Research Consortium [HARC], 2002). News reports on hoarding of animals have focused on human interest stories or publicizing the private difficulties of people who hoard animals. Although

these reports effectively expose a very serious public health concern, they can also provide misinformation about the nature and magnitude of this problem. A qualitative meta-analysis of more than 100 press reports on hoarding of animals suggested that media sources aim to elicit a range of emotions such as revulsion, sympathy, indignation, and amusement regarding people who hoard animals, contributing confusion rather than understanding of hoarding of animals by the general public (Arluke et al., 2002). For example, animal hoarders are often depicted as “addicted to animals” or “serial collectors” who “love their pets to death,” and their homes have been described as “little shop of horrors” or worse (Andrews, 1999; Moore, 1991). In addition, most cases reported in the press are the more extreme ones in which legal raids have occurred, charges have been levied, and people have been evicted (Andrews, 1999; Powell, 1999).

In contrast to the media communications literature, clinical case studies from a public health perspective have attempted to better clarify the nature and symptoms of hoarding of animals and its problematic outcomes. Hoarding of animals is defined as the accumulation of an unusually large number of companion animals and failure to provide minimal standards of care with regard to

This article was published Online First May 16, 2011.

Gail Steketee, and Amanda Gibson, School of Social Work, Boston University; Randy O. Frost, Department of Psychology, Smith College; Janelle Alabiso, Boston University; Arnold Arluke, Department of Sociology, Northeastern University; Gary Patronek, Animal Rescue League of Boston; Hoarding of Animals Research Consortium.

Additional members of the Hoarding of Animals Research Consortium include Carter Luke, MSPCA; Edward Messner, Massachusetts General Hospital; Jane Nathanson, MSPCA; Michelle Papazian, Children’s Hospital.

This research was supported by an award to Dr. Gary Patronek from the Kenneth A. Scott Charitable Trust.

Correspondence concerning this article should be addressed to Gail Steketee, Boston University School of Social Work, 264 Bay State Road, Boston, MA 02215. E-mail: steketee@bu.edu

nutrition, sanitation, shelter, and veterinary care (see Patronek, 1999; <http://www.tufts.edu/vet/hoarding/>). Unfortunately, hoarders typically deny their obvious failure to provide adequate animal care and the often squalid conditions of their home, and they persist in collecting animals despite the evident problems. It is not necessarily the number of animals that determines a hoarding problem given that some individuals such as breeders and trainers who own large numbers of animals provide adequate care and do not suffer impairment in functioning (Patronek, 1999). Clinical observations by veterinary and sociological researchers have suggested that animal hoarders are usually unmarried middle-aged women (50+ years of age) who tend to be socially isolated from family and friends, although men and couples have also been identified as hoarders of animals. The average number of animals (mainly cats and dogs) ranges from 30 to 40, with some hoarders amassing upward of 100 animals or more (HARC, 2002; Patronek, 1999; Worth & Beck, 1981).

Research into hoarding of animals has focused not only on the symptoms but also on its negative public health consequences, such as noise and odor and zoonotic health concerns related to poor veterinary care and sanitation (HARC, 2002; Patronek, 1999).¹ In most cases, animal hoarders were reported to legal authorities by neighbors or social workers who filed complaints (Patronek, 1999). Preliminary studies indicated that most animal hoarders have heavily cluttered and unsanitary residences (HARC, 2002). About 60% of the homes had animal feces and urine covering the floor, and over half of the homes had dead animals (Patronek, 1999). In addition, some of the animal hoarders' beds had urine and feces on them. Most of the time, major appliances and household utilities, such as toilets, faucets, and showers, were not working, exacerbating the already unsanitary conditions resulting from having large numbers of animals (HARC, 2002). These unsanitary conditions create an immediate public health concern to the hoarder, anyone living with the hoarder, and the community, as they increase exposure to zoonotic diseases. Finally, the presence of dead animals has been documented in 59.3% of cases (Patronek, 1999), and a failure to accept death has been suggested as a potential causal factor (Lockwood & Cassidy, 1988).

Another source of information on hoarding of animals can be found in legal publications and veterinary journals where the primary focus is on how to prosecute and legally deal with cases of animal neglect, abuse, and hoarding. Often animals are removed and owners are mandated to clean their residences; in extreme cases, they are evicted and placed in outpatient care residences. Veterinarians and animal shelters are encouraged to identify animal hoarders (by condition of the animals and how often clients acquire animals) and to refrain from giving these individuals animals. Unfortunately, these actions appear inadequate as the animal hoarders seem simply to return to collecting animals after the authorities depart or they try to obtain animals from less exacting animal sources. In one study by Patronek (1999), almost 60% of investigated cases involved repeat offenders.

Very little empirical research helps explain the etiology of this debilitating behavior, perhaps because people who hoard animals are difficult to study because of their involvement with legal authorities. However, several theories have been suggested. For example, hoarding of animals has been likened to an addiction, as animal hoarders tend to exhibit acquiring behaviors similar to addictive behaviors (HARC, 2000; see also Lockwood, 1994). It is

also possible that animal hoarders suffer from delusional thinking that may contribute to hoarding. In support of this model, case studies indicate that hoarders sometimes feel that they have a special bond with animals that allows them to communicate at a higher level (HARC, 2000). Also supportive of a delusional model is the lack of awareness most animal hoarders exhibit regarding the poor condition of their animals and their homes (HARC, 2000). Many claim they are taking care of their animals adequately, even as they wade through feces and trash. In a related vein, HARC researchers have also noted that hoarding behavior (although not hoarding of animals *per se*) has been reported in people suffering from dementia.

Another theory is that excessive attachment to animals may replace inadequate human relationships (Patronek & Nathanson, 2009). Animal hoarders may have grown up with parents who were not outwardly affectionate or were emotionally cold (HARC, 2000, 2002). Case studies (HARC, 2000) support an attachment model in which animal hoarders experienced abuse, neglect, or some other trauma in childhood that impacts their present-day hoarding behavior. A study initially conducted by Brown and Katcher in 1997 and replicated in 2001 revealed that people who were extremely attached to their pets exhibited higher levels of clinical dissociation, which is often related to exposure to trauma. This trauma concept and case histories in which collecting animals began during childhood suggest the need to explore childhood history and possible trauma, modeling by parents, and other early experiences. Previous research has suggested that people who hoard animals typically live alone (HARC, 2000, 2002). Hoarders often appear to take on a parental role toward their animals and describe how they receive "unconditional and uncritical love" from their animals (HARC, 2000).

In particular, hoarding of animals may be related to compulsive hoarding, defined by psychologists Frost and Hartl (1996) as (a) the acquisition of and failure to discard a large amount of possessions that appear to be useless or of limited value, (b) living spaces sufficiently cluttered so as to preclude activities for which those spaces were designed, and (c) significant distress or impairment in functioning caused by the hoarding. These three distinct categories of problematic behaviors—acquisition, difficulty discarding, and disorganization—also seem apparent in hoarding of animals. People who hoard possessions often exhibit significant compulsive buying and acquiring of free items and struggle to resist these urges (Frost et al., 1998; Winsberg, Cassic, & Koran, 1999). Similar acquisition behaviors and struggles can be found in animal hoarders when buying or adopting animals (HARC, 2000). As noted earlier, animal hoarders exhibit significant difficulty keeping their homes organized and their animals well cared for, akin to the difficulties with item organization and maintenance experienced by people who hoard possessions (HARC, 2002; Patronek, 1999; Worth & Beck, 1981). In addition, animal hoarders may also accumulate inanimate objects (Patronek, 1999; Worth & Beck, 1981), but this may simply reflect the debris associated with keeping large numbers of animals without adequate cleaning.

Recent research indicates that the development and maintenance of compulsive hoarding behavior may be due to erroneous beliefs

¹ Zoonotic diseases are those that can be transmitted from animals to people.

about responsibility, emotional attachment, and control toward possessions (Frost & Hartl, 1996). It is possible that similar erroneous thinking and beliefs about animals may play an integral role in the development and maintenance of maladaptive hoarding of animals. Some reports suggest that hoarding of animals may be influenced by beliefs about responsibility, the need for control, and excessive emotional attachment. Reports by HARC (2000, 2002) researchers suggest that animal hoarders hold mistaken beliefs that they are the only ones who care about the animals and the only ones available to provide care. As noted earlier, they also appear to believe that the care they are providing is adequate and deny that they are harming their animals. Animal hoarders may feel an extreme responsibility or a messianic urge to care for or save all animals (Arluke, 1998; Lockwood & Cassidy, 1988; Worth & Beck, 1981). Accordingly, some animal hoarders, in keeping with their mistaken beliefs, may allege that they are operating private “no-kill” animal shelters or rescues or profess to be amateur breeders (Patronek & HARC, 2001).

The purpose of the present study was to gather a variety of information from animal hoarders and animal owners who did not meet criteria for hoarding behavior to better understand the causes and maintaining factors for hoarding of animals. This work is intended to facilitate the development of a testable model to explain why people hoard animals and eventually to identify effective interventions.

Method

Data for the present study were analyzed using a somewhat atypical mixed-methods approach that combined quantitative and qualitative analyses to yield a rich description of hoarding of animals and animal owner participants. Greene, Caracelli, and Graham (1989) posited several purposes for using such mixed methods, including complementarity by integrating qualitative and quantitative data, development to inform future research, initiation to produce possible new insights, and expansion of theories of the causes and characteristics of hoarding of animals. In accord with Caracelli and Greene’s (1993) review, this study employed strategies of data transformation (converting qualitative findings into quantitative data) and typology development (separating data along commonalities into two comparative groups—animal hoarders and animal owners). The qualitative analysis employed here facilitated the identification of patterns, processes, or causal mechanisms, whereas quantitative methods examined the direction or extent of these mechanisms.

Design

The study was designed and developed by members of HARC, an interdisciplinary group of mental health (psychology, psychiatry, social work) and other academic and community (sociology, veterinary science, animal control) professionals studying the problem of hoarding of animals. In consultation with other experts familiar with animals in the course of their work (e.g., mental health clinicians, members of the Massachusetts Society for the Prevention of Cruelty to Animals [MSPCA], public housing officials), HARC members generated hypotheses about possible causes and associated features of hoarding of animals. This led to the development of a semistructured interview (described below)

to examine hypothesized antecedents and causal factors of hoarding of animals and to the decision to study legally involved people who hoarded animals in comparison to a control sample of those who owned large numbers of animals but did not exhibit hoarding behaviors. Decisions about sampling were driven by practical considerations regarding how to recruit people who clearly met criteria for problematic hoarding of animals (identified through the legal system) and a comparison sample of animal owners who did not exhibit such problems. This required separate recruitment strategies. All animal owners participated in a taped interview conducted in their home during which an interviewer recorded demographic and descriptive data. Transcribed narrative responses to the questions were examined using qualitative methods that combined examination of a priori hypotheses generated by the HARC research team with categorical-content analyses based in grounded theory (Patton, 2002).

Participants

Hoarding participants were recruited through animal protection agencies (e.g., MSPCA) that were investigating complaints against the participants. Participants were included in the hoarding group ($n = 16$) if they had experienced some legal difficulty such as being raided or fined because of failure to provide adequate nutrition, sanitation, and medical care for the animals. In all cases, the lack of animal care was considered to have adversely affected the dwellers and their homes. The control sample of animal owners ($n = 11$) was recruited through media advertisements targeting “animal lovers.” Criteria for inclusion were (a) owning a large number of animals (e.g., 20 or more) that appeared to be adequately cared for and (b) lack of noticeable interference in home or personal functioning. Because these criteria for the control sample required independent verification, all interviews were conducted in the home. The study was approved by the human subjects review committees of all participating researchers’ institutions. All participation was voluntary.

The sample of 27 included 93% women (25 women and two men) and ranged in age from 28 to 64 years, with a mean age of 47.3 years ($SD = 9.8$). Most were Caucasian (93%); two (7%) were Native American. Approximately half (56%) of the sample was single, six (22%) were married, and six (22%) were divorced. Nearly half of the sample (48%, $n = 13$) lived alone, and the remainder lived with others (e.g., spouse/partner, children, other relatives). About half of participants (52%) had completed college, 22% had some college, and 19% completed high school or less. Most people were employed full time (44%) or part time (26%), and 22% were not employed (four unemployed, one on disability, and one retired).² Income ranged from nothing to \$120,000, with a mean of \$37,500 ($SD = 24,400$). No significant differences were found between animal hoarders and controls on demographic variables (see Table 1) with the exception of income, which was marginally higher for the control sample ($p = .081$).

Measure and Procedure

Each potential recruit was contacted by telephone by a HARC interviewer who had at least a master’s degree in a mental health

² Education and employment data were missing for some participants.

Table 1
Biographical Characteristics of Hoarding and Control Groups

Variable	Hoarding (<i>n</i> = 16)	Control (<i>n</i> = 11)	Measure
Mean (range) age (years)	49.7 (28–64)	43.7 (28–58)	<i>t</i> = <i>ns</i>
Mean (range) income (\$)	30,000	48,500	<i>p</i> = .081
Mean animal types	38 dogs, 177 cats, 164 other	83 dogs, 122 cats, 181 other	
Total animals, <i>n</i>	379	386	<i>t</i> = <i>ns</i>
Mean animals, <i>n</i>	23.7	35.1	<i>t</i> = <i>ns</i>
Female, %	94	91	χ^2 = <i>ns</i>
Caucasian, %	94	91	χ^2 = <i>ns</i>
Never married, %	56	55	χ^2 = <i>ns</i>
College educated or more, %	53	60	χ^2 = <i>ns</i>
Employed full or part time, %	67	90	χ^2 = <i>ns</i>
Lives alone, %	56.3	36.4	χ^2 = <i>ns</i>

field (social work, psychology, sociology). The interviewer described the study as focused on animal lovers and human–animal bonding. Interested participants were scheduled for an interview and signed an informed consent form prior to beginning the interview. Most interviews occurred in participants' homes, with a few exceptions because of privacy concerns or homelessness due to a condemned or demolished home as a direct result of hoarding of animals.

The semistructured interview (available from the authors) developed for this study contained approximately 100 questions on the following topics: biographical information; childhood and adult history of animal ownership; animal-related behaviors, beliefs, and emotions; past and current family and social relationships; and health and mental problems. Interviewers were instructed to ask all questions in the interview except when a participant had already covered that material in another answer, and to probe further to ensure that they understood respondents' replies fully. Each interview lasted 1.5 to 2 hr and was audiotaped for later transcription; participants received \$50 for their time.

Data Analytic Methods

Qualitative analyses. Audiotapes of all interviews were transcribed by advanced undergraduates in psychology at Smith College and entered into ATLAS.ti (Version 4.2) to organize and manage the data. A categorical-content approach was used for analyzing the interview data (Lieblich, Tuval-Mashiach, & Zilber, 1998). Coders conducted a qualitative content analysis using an iterative approach in which they identified thematic categories pertinent to the features and possible mechanisms of hoarding of animals. The interview questions were at least partly hypothesis driven as noted earlier, based on the literature on hoarding and discussions among HARC researchers (see Table 2 for these hypotheses). Coders rated interview transcripts according whether the content appeared to pertain to one or more of the hypotheses and also coded any novel topics that might be relevant to hoarding features and causes.

To calibrate coding methods, five interviews were selected at random and read independently by three authors (GS, AG, and JA) to identify content representing hypothesized themes, as well as novel themes. After coding, the three readers discussed the codes and segments of text representing them and agreed on code labels and definitions listed in an initial codebook. This process facilitated reliability among raters so that by the fourth and fifth interviews, passages selected and codes assigned were in strong agreement, although no formal reliability statistics were computed. A codebook representing the codes and their definitions was developed. The remaining 22 transcripts were then coded separately by two authors (AG and JA; 11 each) using the codebook and marking new codes as these arose. Four of the transcripts (two from each group of hoarding and control interviews) were selected at random for coding by the other rater to determine coding consistency across raters. The text selections and the assigned codes remained in very good agreement as judged by the senior investigator (GS). A revised codebook containing all codes was used for a final review of each transcript to arrive at final code labels and selected text that reflected the corresponding code. These codes were then grouped into thematic categories based on similarity of content and relevance to the original hypotheses. Thematic categories and their associated codes are presented in Table 3.

Table 2
Hypotheses Derived From the Hoarding of Animals Research Consortium (HARC) Literature on Hoarding of Animals and Discussions Among HARC Researchers

As children, compared with controls, animal hoarders will	As adults, compared with controls, animal hoarders will
Show greater attachment to pets.	Have stronger emotional reactions to animals, both positive (love, affection, protection, enjoyment) and negative (grief).
Show more early history of insecure and ambivalent attachment to parent figures.	Set fewer restrictions on animal behavior in and outside the home.
Have experienced more childhood negative major life events (family deaths, neglect, abuse, traumas, and frequent moves).	Have experienced more life stresses, including financial, social, employment, health, and family problems.
Show greater social isolation.	Have smaller social networks and less frequent contact with others.
Have had to take on more household obligations (child care, self-care, animal care, chores).	Have more dysfunctional and conflictual (anger, disagreements, hostility) relationships with others.
	Have more mental health problems.

Table 3
Thematic Categories for Hoarders and Controls

Thematic categories	Thematic codes	Hoarders (<i>n</i> = 16)		Controls (<i>n</i> = 11)		<i>p</i>
		<i>n</i>	%	<i>n</i>	%	
Animal care	Poor care of animals	7	43.8	1	9.1	.090
Limits	Sets limits on number of animals	12	75	8	72.7	1.00
Knowledge of animals	Knowledge of animal behavior and care	6	37.5	4	36.4	1.00
Rules for animals	Animals should be free—no rules	14	87.5	6	54.5	.084
	Home accommodation for animals	1	6.3	3	27.3	.273
	Total	15	93.8	8	72.7	.273
Childhood emotional reactions to animals	Rituals for dead animals	1	6.3	1	9.1	1.00
	Extreme reaction to animal death	1	6.3	5	45.5	.027
	Feels emotionally close to animals	0	0	1	9.1	.407
	Total	2	12.5	6	54.5	.033
Adulthood emotional reactions to animals	Empathy—feels like animals do	10	62.5	4	36.4	.252
	Sympathy for plight of animals	5	31.3	5	45.5	.687
	Kindness, compassion for animals	7	43.8	2	18.2	.231
	Reciprocal relationship—animal loves, helps owner	5	31.3	1	9.1	.350
	Rituals for dead animals	11	68.8	5	45.5	.264
	Extreme reaction to animal death	12	75.0	4	36.4	.061
	Feels emotionally close to animals	12	75.0	9	81.8	1.00
	Total	16	100	11	100	1.00
Rescue	Caretaking of animals—strays, shelters	9	56.3	3	27.3	.239
	Caretaking of people—volunteers	4	25.0	2	18.2	1.00
	Rescues animals, savior	15	93.8	10	90.9	1.00
	Total	16	100	10	90.9	.407
Animal personalities	Animals have human characteristics	13	81.3	3	27.3	.015
	Animals have special abilities	3	18.8	0	0	.248
	Animals as nonjudgmental	2	12.5	1	9.1	1.00
	Total	13	81.3	4	36.4	.040
Responsibility	Duty (responsibility) to care for animals	10	62.5	8	72.7	.692
	Duty to care for people (child care, chores, self-care)	3	18.8	3	27.3	.662
	Total	11	68.8	9	81.8	.662
Adult stressful Life events	Stressful financial, social, work events	12	75.0	7	63.6	.675
	Family health problems	3	18.8	2	18.2	1.00
	Family mental health problems	4	25.0	1	9.1	.618
	Personal health problems	4	25.0	3	27.3	1.00
	Losses—death, separation	10	62.5	8	72.7	.692
	Abuse by partner	4	25.0	1	9.1	.618
	Total	16	100	11	100	1.00
Childhood stressful life events	Abuse by others	4	25.0	3	27.3	1.00
	Chaotic home life	6	37.5	0	0	.054
	Childhood traumatic events—moves	9	56.3	6	54.5	1.00
	Abuse by family member(s)	6	37.5	3	27.3	.692
	Neglect by parents/caretakers	6	37.5	3	27.3	.692
	Total	14	81.3	6	54.5	.084
Childhood attachment	Ambivalent parental relationships	8	50.0	2	18.2	.124
	Negative family relationships	14	87.5	3	27.3	.003
	Family secrecy	5	31.3	2	18.2	.662
	Total	15	93.8	4	36.4	.002
Child positive social contact	Social network size	1	6.3	3	27.3	.273
	Positive social experiences	4	25.0	4	36.4	.391
	Total	4	25.0	6	54.5	.224
Child negative social contact	Negative social experiences	6	37.5	4	36.4	1.00
Adult positive social contact	Social network size	5	31.3	4	36.4	1.00
	Belongs to organizations	3	18.8	5	45.5	.206

Table 3 (continued)

Thematic categories	Thematic codes	Hoarders (<i>n</i> = 16)		Controls (<i>n</i> = 11)		<i>p</i>
		<i>n</i>	%	<i>n</i>	%	
Adult negative social contact Relationships	Amount of social support	7	43.8	7	63.6	.440
	Positive social experiences	3	18.8	5	45.5	.411
	Total	9	56.3	10	90.9	.090
	Negative social experiences	5	31.3	2	18.2	.662
	Distrusts authorities	7	43.8	0	0	.022
	Dysfunctional romantic relationships	6	37.5	2	18.2	.405
	Dysfunctional family relationships	1	6.3	0	0	1.00
Mental health	Dysfunctional work relationships	2	12.5	1	9.1	1.00
	Total	10	62.5	2	18.2	.120
	Possible hoarding of objects	5	31.3	1	9.1	.350
	Hospitalized for mental health reasons	3	18.8	1	9.1	.624
	Hallucinations	2	12.5	1	9.1	1.00
	Substance abuse	4	25.0	1	9.1	.618
	Any mental health problems	9	56.3	3	27.3	.239
Poor adult functioning	Total	11	68.8	5	45.5	.264
	Poor daily functioning	3	18.8	0	0	.248
	Poor housekeeping/home damage	6	37.5	0	0	.054
	Work functioning	2	12.5	0	0	.499
	Limited social activity	6	37.5	5	45.5	.710
	Total	10	62.5	5	45.5	.022

Note. Codes are derived from interview transcripts by trained coders. Only categories where two or more participants were coded for the specific code are included. The *n* column represents the number of hoarding or control participants who were coded as reporting or displaying this thematic code at least once during the interview.

Quantitative analyses. After interview transcripts were coded, the frequency of appearance of thematic categories was calculated separately for hoarding and control participants using Excel files derived from the ATLAS.ti file. To reduce the large number of codes, we eliminated codes with very low frequency (fewer than two transcripts containing the code) and no conceptual/hypothetical relevance to characteristics or causal features of hoarding of animals. This reduced more than 70 codes to 53. These were grouped into 16 thematic categories representing animal care, rules for animals, rescue, responsibility, limitations, knowledge, emotional reactions to animals, animal personalities, childhood stressful life events, attachment, adult stressful life events, social contact, limited socializing, relationships, mental health, and negative adult outcomes (see Table 3). Codes and demographic variables for each participant were entered into SPSS for quantitative analysis. Descriptive statistics (two-tailed *t* tests for continuous data and chi-squares or Fisher's exact test for categorical themes) were computed for codes and thematic categories to examine the magnitude of the observed differences between hoarding of animals and control samples.

Results

Animals and Their Care

Animal hoarders and control participants did not differ in the number of animals they owned; the mean was 31 animals, with a range of 14 to 80 or more. Cats tended to be the most heavily collected animal in both groups: Seven of the 11 controls owned cats, and 13 of the 16 animal hoarders owned cats. Other types of animals collected as pets by both groups included dogs, horses,

sheep, goats, reptiles, birds, rabbits, rodents, and wildlife. Both collectors of reptiles were in the control group. Most animals were acquired through adoption from other people, rescue organizations, and animal shelters; several were bred or bought. Consistent with the definition of hoarding, 13 (81%) animal hoarders reported being officially raided by or threatened with removal of their animals by animal or other public officers. Four (36%) controls reported threats from neighbors but no actual investigation of public officials. Their accounts suggested minor complaints that did not constitute criteria for hoarding of animals.

Animal care and knowledge. Knowledge about animal care and animal biology ranged from minimal to well educated and did not appear to differ between the two groups. However, with regard to descriptions of actual animal care, coders noted that 44% of the hoarding participants versus only 9% of controls reported circumstances that demonstrated poor animal care. This ranged from minimal veterinary care and multiple cases of animal inbreeding to inhospitable conditions that resulted in poor physical condition or, in extreme cases, animal death.

Rules for animals. When asked whether they had any rules for animals, animal hoarders consistently used the term *free* in reference to their pets' access to the home. Eighty-eight percent of animal hoarders versus 55% of controls described a household where animal freedom (to eat, play, rest, urinate, defecate wherever they wanted) was the norm; this was a marginally significant difference, $\chi^2(1) = 3.69, p = .084$. Some animal hoarders stated that they did not believe their animals were pets or in need of training. For example, one 46-year-old single woman stated, "They are not my pets. . . . I am their pet. . . . I am serious." Another animal hoarder, a 40-year-old single woman said,

I do not believe in dog training. I believe that they should be shown how to go to the bathroom, but I do not believe that they should be taught for anything other than what their own [natural] purpose was. Absolutely. And if they do not belong with humans, they should not be with humans.

Although 27% of control participants versus 6% of hoarders made changes to their homes to accommodate their pets (e.g., pet guards on furniture, limiting animals to certain areas or rooms), this difference was not significant. An interesting finding was that control group members' occasional use of cages or kennels was a practice not used by animal hoarders.

Attachment and Personification of Animals

Setting limits. Approximately three quarters of both groups set limits on the number of animals they owned. Some of the reasons given for limit setting included financial burden, already having enough animals, and inability to keep up with the demands of the animals they owned.

Emotional reactions to animals. Contrary to prediction, retrospective reports from participants indicated that controls more often reported emotional reactions to animals during childhood than did hoarders ($p < .033$). Six (55%) controls but only two hoarders (13%) expressed such feelings. This appeared to be mainly evident in extreme reactions to animal deaths during childhood, which were reported by five controls and only one hoarding participant.

During adulthood, all hoarding and control participants ($n = 27$) described positive emotional reactions and strong attachments to their pets. However, in contrast to childhood reporting, marginally more hoarding participants (75%) expressed strong grief reactions when their pets died than did controls (36%), $\chi^2(1) = 4.03$, $p = .061$. Overall, however, there were no significant differences between groups in the frequency of thematic codes of empathy, sympathy, compassion, or emotional closeness toward animals ($ps > .23$). Both groups reported strong attachment to their pets, even after the pet had died.

Rescue. Both groups were involved in animal rescue at a high rate. Ten of 11 (91%) controls and all 16 hoarders reported going out of their way to save animals from homelessness or neglect. This similarity most likely stems from recruiting strategies in which our efforts to identify "animal lovers" who did not meet criteria for hoarding came from among those who provide rescue services to animals.

Animal personalities. This category pertained to participants who conferred human characteristics to their animals, anthropomorphizing them. More hoarders than controls ascribed human-like personality features to their animals. Within this thematic category, animal hoarders (81%) were more likely than controls (27%) to consider their pets part of the family and believe that their animals had the same intelligence and characteristics as humans, $\chi^2(1) = 7.87$, $p = .015$. Many of the animal hoarders spoke of their pets as if they were human family members, referring to "my children or grandchildren" or "brothers and sisters." One 28-year-old single female commented,

I consider them family members; it is a big fear for me that for some reason something will happen, because if they were ever taken away from me, to me that would be like having a child taken away.

Other animal hoarders spoke of their pets as having relationships similar to humans. One 50-year-old woman described her cats as follows:

I do not know if you know that male and female cats can become like husband and wife. They do that. Him and Candy are like husband and wife now. I think that Freddie thinks I am actually his wife in a way because he is so close to me.

Personal and Family History

Responsibility. Groups did not differ in their duties to care for animals or people. Most participants, regardless of group, had some responsibility for caring for their pets during childhood, whereas relatively few participants described caretaking roles for other family members.

Adult stressful life events. As adults, all of the participants (100%) in both groups described complicated life stories that included death (primarily parents and grandparents), divorce, family illness (Alzheimer's, cancer), personal health concerns (such as cancer, chronic pain, dental pain, and injuries), and other stressful life events (multiple moves, accidents, job changes). No clear differences in these types of lifetime experiences occurred across groups.

Childhood stressful life events. Hoarders were marginally higher than controls in the frequency of childhood stressful life events ($p = .084$). In particular, the presence of a chaotic home appeared to marginally differentiate the two groups, $\chi^2(1) = 5.30$, $p = .054$. A "chaotic home environment" was coded when participants described a disorganized, inconsistent, or confused style of living in which a parent or family member caused disruption in the home or impeded the quality of life. None of the control participants reported a chaotic childhood environment compared with 38% of animal hoarders. The nature of these home circumstances included fights in the home, noisy abusive neighbors, excessive substance use, and divorce. Occasionally, more extreme home circumstances surfaced, as in the case of a 55-year-old married woman who described her childhood environment as follows:

I don't know if you would call it an open marriage or what . . . There was a lot of drinking—they [mother and father] would go out drinking and dancing, and as a child I always said I did not want to do that. I was not going to do that, but it was like they allowed it. My father would talk about a girlfriend. My mother would talk about a boyfriend. And it was very open with that, which, like I said, in the '50s it was unusual . . . Inappropriate behavior, you know, my mother totaling three cars coming home because she had too much to drink and me being 14 or 15 . . .

Childhood attachment. Coders subsumed variants of family relationship problems during childhood under the theme of childhood attachment. Consistent with the hypothesis, animal hoarders reported significantly more attachment problems than did controls ($p = .002$). In particular, they described more negative family relationships (88%) than controls (27%), $\chi^2(1) = 10.14$, $p = .003$. The negative family relationships were typified by angry or hurt feelings and contentious, neglectful parental and family relationships. At the severe end of the spectrum, a 36-year-old single man who hoarded described a very difficult relationship with his father,

My father and I never had a father-son relationship. He was very violent, very aggressive. I grew up in fear of him, and actually all

men, as a little boy, and even to this day I am afraid of disappointing my father.

Several animal hoarders described similar complete rifts in their relationships with their parents or family. For example, a 54-year-old divorced woman stated about her mother, “We were enemies,” and another 53-year-old single woman said about her mother, “She doesn’t speak to me anymore and she doesn’t speak to my brother anymore either.”

Ambivalent familial relationships were coded when participants reported both negative and positive (loving/affectionate) parenting experiences. Although groups did not differ significantly on this code in our small sample, it appeared to contribute to the overall thematic attachment difference. A typical conflicted relationship with a parent was evident in one 54-year-old cat owner’s description of her contradictory feelings about her father: “I loved him to death, but I was scared of him.” Another participant who hoarded animals, a 55-year-old single woman, described ambivalent relationships with both of her parents,

I reached out to him [father] when I was a very little girl and I think I scared him. So I was afraid to get too close but I think internally . . . I understand him better than some other people . . . and I loved him. It’s hard [to explain] about her [mother]. . . . I don’t quite understand the effect that she had on me, but she was a public person and it was hard for her to have intimate relationships.

Social Life

Child and adult social contact. Themes emerging from the analysis of the transcripts encompassed several social areas including size of social networks (acquaintances, friends, family, organizations), social support for adults (the presence of others available for help), and positive social activity and experiences (talking on the phone, attending social events, meeting and chatting with friends). Negative social experiences were coded separately and classified as a separate theme (see Table 3). There was no evidence that hoarders experienced more social isolation as children. It is interesting that few members of either group reported large childhood social networks or positive social experiences. With regard to adult socializing, a marginal overall difference emerged, $\chi^2(1) = 3.76, p = .09$, with hoarding participants reporting less positive social contacts but not more negative social experiences. There was no evidence of differences in social network size, with both hoarders and controls reporting relatively limited social contacts, but wide variation was evident in both groups. With regard to the nature of their social experiences, controls commented more often on positive relationships with friends and family members, but differences were not evident on specific codes within the category, and hoarders did not display more negative social experiences as adults.

Relationships. The presence of dysfunctional romantic, family, and work relationships did not differ between animal hoarders and controls. Statements showing distrust of authority figures such as veterinarians, police, and the MSPCA were found only among animal hoarders (44%), but this seems likely due to the fact that this group was recruited through animal control agencies because they were being investigated for hoarding animals.

Mental Health and Functioning

Mental health. Mental health concerns were coded based on interview questions about prior formal mental health diagnoses, as well as specific screening questions about the presence of symptoms that were diagnostic of obsessive-compulsive disorder, substance abuse, and psychotic disorders, including paranoia. Standardized mental health diagnostic interviews were not conducted. No differences between hoarding and control samples were evident in self-reported mental health problems. Hoarding of objects was identified in 31% of animal hoarders and only one (9%) control, but this was not a significant difference.

Adult functioning. We grouped several codes into an overall category of poor adult functioning that included daily household and work functioning and limited social activities. Overall, animal hoarders reported more problems in these areas than did controls, who indicated few instances of functional difficulty, $\chi^2(1) = 6.497, p = .022$. Over one third (38%) of animal hoarders reported damage to their homes, whereas none of the control group did so. Hoarders reported broken or unusable household appliances, water damage, and almost no usable furniture, as well as floors and walls ruined by feces and urine. Again, more than a third (38%) of animal hoarders reported poor work functioning or inability to work; this was in sharp contrast to controls, who did not describe any of these outcomes. Both groups were similar in reporting problems socializing, sometimes because of the need to care for animals, but also because of excessive time spent working or having a partner who discouraged socializing.

Discussion

The present study explored characteristics and possible antecedents of hoarding of animals using a somewhat atypical blend of qualitative and quantitative methods that was designed both to explore the understudied phenomenon of hoarding of animals using rich description from interview data and to compare findings with reports from nonhoarding animal owners. Both groups were unusual in owning a large number of animals. The findings represent a first step toward understanding problematic collecting of animals from a mental health perspective, informed by sociological, veterinary, and animal protection perspectives. Our efforts to identify an appropriate control group of multiple pet owners appeared reasonably successful in that groups did not differ in the number of animals owned or other demographic information, except income. Hoarding participants had less average income than controls, a factor that might have affected their ability to care for their animals. However, as evident from the findings, the control sample may have been more similar to the hoarding group than originally intended, perhaps because recruitment ads specified “animal lovers” for whom pets were their “life.”

Attitudes and Relationships Toward Animals

Content analysis revealed a number of themes that were similar across animal hoarders and controls, sometimes surprisingly so, as well as others that appeared to distinguish between these two groups. Both groups were similar in their knowledge of animal behavior, their involvement in animal rescue, and the extent to

which they set limits on their animals. They were also similar in their reports of current emotional reactions to animals—both groups expressed empathy and compassion toward animals, as well as feeling emotionally close to their pets, and both groups reported having rituals surrounding the death of an animal. Both groups reported extreme negative reactions when the animals suffered from injury, illness, or death. We were surprised to find that controls reported more extreme reactions to the death of a pet than did hoarding participants during childhood, but this was reversed in adulthood as three quarters of hoarders reported strong responses compared with about one third of controls. Animal hoarders were slightly more likely to personalize burial ceremonies of their animals, for example, by placing animals in a special keepsake box representative of each animal's personality.

These findings only partly confirm previous theories by researchers from various disciplines that suggest that animal hoarders have unusually strong emotional reactions to their pets (Arluke, 1998; HARC, 2000, 2002; Lockwood & Cassidy, 1988; Patronek & Nathanson, 2009; Worth & Beck, 1981). In our samples, hoarding behavior was not necessarily associated with excessive emotional attachments relative to other people who owned comparable large numbers of animals. We did not confirm the hypothesis that during childhood, hoarders would show more attachment to their pets compared with our control sample. However, there was some suggestion that the death of an animal was especially difficult for animal hoarders during adulthood. A larger sample that includes a comparison group of more typical pet owners may help clarify these findings.

During interviews, marginally more animal hoarders than controls commented on problems caring for their animals. Animal hoarders imposed relatively few rules on their animals, allowing them full access to the home without restriction. In some cases, animal hoarders stated that they did not believe in training animals, and that the animals should be allowed to be as natural as possible.

Hoarders more often believed that animals had human characteristics and special abilities. Although some control participants also described their animals as family (as do many ordinary pet owners), their descriptions were qualitatively different. Nonhoarding animal owners described their animals as *similar to* family members, whereas animal hoarders tended to describe their animals *as* full family members. Perhaps, they transferred their affection and love to their animals and in so doing elevated them to full family member status, even rulers of the roost who were permitted to roam the house without behavioral restrictions, even to the point of urinating in the home. Perhaps, the transference of human qualities to the animals—viewing the animals as independent beings able to make decisions and care for themselves—may have interfered with participants' ability to care for them properly.

Childhood Experiences

Groups were similar in their comments about both negative and positive social experiences as children; however, during childhood, hoarders reported more childhood stressful life events, with more than one third commenting on having chaotic home lives compared with no controls mentioning this issue. This disorganized, hectic lifestyle early in development may have contributed

to inappropriate caring for animals. Consistent with the difficult home life were the high number of mentions of negative family relationships by hoarders (88%), whereas few controls noted such problems (27%). This may represent more problems with attachment that might become evident in a larger sample with more specific assessment of parent-child relationships. Although case studies conducted by HARC (2000) suggested that people hoard animals because of an early history of abuse, trauma, or neglect (see also Brown & Katcher, 1997), our groups did not differ in traumatic experiences in childhood (e.g., sexual molestation, physical or emotional abuse). However, the lack of significant difference could have stemmed from the selection criteria for the control sample, which appeared to share some features of hoarding, although not yet at a debilitating level. More research from a human development perspective will be useful in informing our understanding of the role of childhood attachment and human-animal bonding on later hoarding of animals.

Adult Experiences

Reports of negative social experiences and stressful life events as adults were also similar across groups and both groups reported similar social network sizes. Although control participants tended to report more overall positive social experiences (talking on the phone, going out with friends, belonging to organizations), animal hoarders did not appear to be antisocial or socially isolated. In fact, both groups maintained small intimate groups of friends and were able to turn to others for support or assistance if needed. Although this finding seems to contradict suggestions that animal hoarders are socially isolated (Lockwood, 1994; Patronek & Nathanson, 2009), we caution that our hoarding sample was willing to be interviewed and may not be representative of all animal hoarders. Furthermore, although the animal hoarders we interviewed were not obviously deficient in social skills, this does not rule out the possibility that they gained some important benefit from their animals that they did not access from their social interactions.

With regard to relationships and functioning in adulthood, the groups did not differ in reports of dysfunctional romantic, family, and work relationships; however, not quite half of the hoarding sample expressed distrust of authority figures, whereas no controls did so. With regard to functioning, hoarders reported problems in poor housekeeping, and several noted damage to their homes; in contrast, no controls commented on this problem in response to interviewer queries. Overall, hoarders seemed to have more difficulty functioning in usual daily routines.

Our analyses did not indicate that health and mental health histories and current concerns differentiated hoarders from controls. However, the lack of formal diagnostic interviews for either physical health or mental health problems for this study necessitates further research before drawing firm conclusions. It remains our clinical impression that many severe animal hoarders do suffer from mental illness in various forms. With regard to hoarding, previous writers (e.g., HARC, 2000) have suggested that compulsive hoarding of objects is also common among animal hoarders, whereas we did not find differences between groups. However, it is noteworthy that five hoarders and only one control subject reported hoarding of possessions and, in some cases, we were not able to interview all participants in their homes to confirm these reports. Whether there is a true link between compulsive hoarding

and hoarding of animals is unclear and requires a larger sample in which home visits are included.

Model of Hoarding of Animals

Our findings are consistent with Patronek and Nathanson's (2009) three-part model of hoarding of animals, which begins with the failure to develop attachments early in life, consistent with the higher frequency of childhood stressful life events and negative childhood attachment reported by hoarders. In addition to these poor familial relationships, chaotic childhood environments may contribute to the lack of adequate coping strategies necessary to effectively interact with people and recover from adverse situations in childhood and later on in adulthood. The next part of the model, then, is poor adult functioning, supported by findings of greater impairment in adult work, daily activities, and social life among hoarding participants than controls. The third part of the model is the reliance on animals for emotional comfort, consistent with findings that animals take on human characteristics. According to the model, emotional pain accompanying early ambivalent attachments and poor coping set the stage for some people to turn to animals for unconditional love and support. If confirmed with further testing in larger samples, this model may guide mental health and social service intervention strategies to resolve problems of hoarding of animals.

Limitations and Future Directions

Given the dearth of information available about hoarding of animals, the present study is a first step in understanding the features and potential causes of hoarding from multiple perspectives. Accordingly, this study was conducted on a small sample of people identified as animal hoarders and a separately recruited control group of multiple-animal owners. Qualitative and quantitative methods were used to detect and compare the frequency of hypothesized themes across these samples. Several factors in addition to small sample size may have limited our ability to detect differences in the frequency of some themes. We selected a control group of people who owned an unusually large number of animals and considered themselves animal lovers for whom "pets are your life." Thus, animal hoarders in this study were not compared with typical pet owners. Furthermore, the animal hoarders who consented to participate may represent a less severely affected population. Our groups may have been more similar than expected on the characteristics tested, limiting our ability to detect all but the most marked differences. In future research, controls who represent typical pet owners would be valuable in clarifying the role of factors studied here. These qualitative content analyses need to be followed by rigorous hypothesis testing using standardized quantitative assessment and analyses.

In addition, because our semistructured interviews were scripted with specific questions, we may have failed to identify some themes that more open-ended questions might have elicited. We did find, however, that both the hoarding and control samples elaborated on their thoughts during the interview, often yielding rich descriptions of their beliefs and experiences. Unfortunately, some participants did not complete the quantitative rating scales, so we were unable to compare groups on continuous ratings. Finally, although we sought to ensure reasonable reliability across

interview coders, formal reliability across raters and time was not examined. Accordingly, more rigorous research that uses newly developed standardized measures and minimizes missing data is needed to verify our findings. Such future research can test the proposed model, as well as additional hypotheses that expand the model to explain hoarding behavior (e.g., the poor insight and justification of problematic behavior noted by Vaca-Guzman and Arluke, 2005) and point to likely intervention options for this population.

Our findings do have some implications for mental health clinical practice, as well as for social services and public policy. Allowing animals to have free reign in the home appears to conflict with basic needs for a healthy environment for both humans and animals. This seems a fruitful area for exploration and identification of problematic beliefs and strategies for behavior change to better meet these needs. Coping with feelings of grief and loss appears to be a useful topic to examine among some animal hoarders who may have unresolved losses of both animals and social relationships. The chaotic home life in hoarders' early histories may require assistance with problem-solving skills; hoarders seem unlikely to benefit from incarceration without treatment that sometimes follows conviction for animal cruelty. Balancing animal and human rights and needs is clearly an important area for further study. Clearly, hoarding of animals is a challenging personal and societal problem that will require nuanced intervention efforts.

References

- Andrews, K. (1999, June 19). Women charged with abusing cats. *The Calgary Herald*, B14.
- Arluke, A. (1998, February). *An ethnographic approach to animal hoarding*. Paper presented at the annual meeting of the Humane Society of the United States, Orlando, FL.
- Arluke, A., Frost, R., Steketee, G., Patronek, G., Luke, C., Messner, E., . . . Papazian, M. (2002). Press reports of animal hoarding. *Society and Animals*, 10, 113–135.
- Brown, S. E., & Katcher, A. H. (1997). The contribution of attachment to pets and attachment to nature to dissociation and absorption. *Dissociation*, 10, 125–129.
- Brown, S. E., & Katcher, A. H. (2001). Pet attachment and dissociation. *Society and Animals*, 9, 25–41.
- Caracelli, V. J., & Greene, J. C. (1993). Data analysis strategies for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 15, 195–207.
- Frost, R. O., & Hartl, T. (1996). A cognitive-behavioral model of compulsive hoarding. *Behaviour Research and Therapy*, 34, 341–350.
- Frost, R. O., Kim, H. J., Morris, C., Bloss, C., Murray-Close, M., & Steketee, G. (1998). Hoarding, compulsive buying and reasons for saving. *Behaviour Research and Therapy* 36, 657–664.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11, 255–274.
- Hoarding of Animals Research Consortium. (2000). People who hoard animals. *Psychiatric Times*, 17, 25–29.
- Hoarding of Animals Research Consortium. (2002). Health implications of animal hoarding. *Health & Social Work*, 27, 125–132.
- Lieblich, A. F., Tuval-Mashiach, R., & Zilber, T. (1998). *Narrative research: Reading, analysis, and interpretation*. Thousand Oaks, CA: Sage.
- Lockwood, R. (1994). The psychology of animal collectors. *American Animal Hospital Association Trends Magazine*, 9(6), 18–21.

- Lockwood, R., & Cassidy, B. (1988). Killing with kindness? *Humane Society News*, (Summer), 14–18.
- Moore, E. (1991, July 21). Addicted to animals. *The Houston Chronicle*, 8–12.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Patronek, G. J. (1999). Hoarding animals: An under-recognized public health problem in a difficult-to-study population. *Public Health Reports*, 114, 81–87.
- Patronek, G. J., & the Hoarding of Animals Research Consortium. (2001). The problem of animal hoarding. *Municipal Lawyer*, 42(3), 6–19.
- Patronek, G. J., & Nathanson, J. N. (2009). A theoretical perspective to inform assessment and treatment strategies for animal hoarders. *Clinical Psychology Review*, 29, 274–281.
- Powell, K. (1999, July 27). Women ruined second house, says landlord: But not guilty of fraud, court finds. *Edmonton Journal*, B3.
- Vaca-Guzman, M., & Arluke, A. (2005). Normalizing passive cruelty: The excuses and justifications of animal hoarders. *Anthrozoos*, 18, 338–357.
- Winsberg, M. E., Cassic, K. S., & Koran, L. M. (1999). Hoarding in obsessive-compulsive disorder: A report of 20 cases. *Journal of Clinical Psychiatry*, 60, 591–597.
- Worth, D., & Beck, A. M. (1981). Multiple ownership of animals in New York City. *Transactions and Studies of the College of Physicians of Philadelphia, Series V*, 3, 280–300.

Received October 27, 2010

Revision received March 7, 2011

Accepted March 9, 2011 ■

ORDER FORM

Start my 2011 subscription to *Review of General Psychology* ISSN: 1089-2680

___ \$63.00 **APA MEMBER/AFFILIATE** _____

___ \$110.00 **INDIVIDUAL NONMEMBER** _____

___ \$415.00 **INSTITUTION** _____

In DC and MD add 6% sales tax _____

TOTAL AMOUNT DUE \$ _____

Subscription orders must be prepaid. Subscriptions are on a calendar year basis only. Allow 4-6 weeks for delivery of the first issue. Call for international subscription rates.



AMERICAN
PSYCHOLOGICAL
ASSOCIATION

SEND THIS ORDER FORM TO
American Psychological Association
Subscriptions
750 First Street, NE
Washington, DC 20002-4242

Call **800-374-2721** or 202-336-5600
Fax **202-336-5568** : TDD/TTY **202-336-6123**
For subscription information,
e-mail: **subscriptions@apa.org**

Check enclosed (make payable to APA)

Charge my: Visa MasterCard American Express

Cardholder Name _____

Card No. _____ Exp. Date _____

Signature (Required for Charge)

Billing Address

Street _____

City _____ State _____ Zip _____

Daytime Phone _____

E-mail _____

Mail To

Name _____

Address _____

City _____ State _____ Zip _____

APA Member # _____

GPR11