
Pet Ownership as a Meaningful Community Occupation for People With Serious Mental Illness

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KEY WORDS

- bonding, human–pet
- human activities
- interpersonal relations
- mentally ill persons
- social support

OBJECTIVE. We determined the proportion of pet owners and non–pet owners with serious mental illness, compared their characteristics and their motivations for owning or not owning a pet, and examined the relationship between pet ownership and engagement in meaningful activity and three dimensions of community integration.

METHOD. Three Assertive Community Treatment (ACT) teams reported on the pet ownership of all service recipients ($N = 204$). Of these recipients, 60 completed a survey. Nonparametric tests were selected for data analysis.

RESULTS. Of 204 ACT clients, 38 (18.6%) were pet owners. Twenty-four (63.2%) of 38 responding non–pet owners desired to live with a pet. There were significant differences between groups on diagnosis, gender, a global measure of function, meaningful activity, and psychological integration.

CONCLUSION. The key finding supports the hypothesis that pet owners with serious mental illness living in the community demonstrate higher social community integration. Implications for future research and practice are discussed.

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Addressing the occupational imbalance and marginalization experienced by community-dwelling adults with serious mental illness is an important challenge for occupational therapy. This occupational imbalance seems to be occurring despite reports that “mental health consumers [clients] want to be productive, they want to engage in non-stigmatizing occupations, they want to engage in occupations that facilitate social interaction, and they expressed a need for personal satisfaction” (Hvalsøe & Josephsson, 2003, p. 69). An area that has not received much attention in occupational therapy and psychosocial rehabilitation is the potential of caring for companion animals (or pets) as a meaningful community occupation. Although there has been some effort to describe the potential benefits of pet ownership to the broader community (Wood, Giles-Corti, & Bulsara, 2005) and some descriptive studies of interventions that use pet ownership (Brown, Ryan, & Rhodes, 2006; Sachs-Ericsson, Hansen, & Fitzgerald, 2002; Virués-Ortega & Buela-Casal, 2006), direct study of pet ownership among adults with serious mental illness and of the influence of pet ownership on their occupational lives and connections in the community has been lacking. This study contributes to this body of knowledge by examining the proportion of pet owners and non–pet owners among people with serious mental illness living in the community, the clinical and sociodemographic characteristics of pet owners and non–pet owners, their motivations for and against pet ownership, and the relationship of pet ownership to engagement in meaningful activity and to community integration.

Literature Review

Companion animals are domesticated and cared-for animals (Barba, 1991). According to Johnson (2001), an *animal companion* (or *pet*) is “a being whom we have a significant relationship and close connection with, and who lives, works, and plays with us on a daily basis” (p. 201a). Research on human–animal interactions is related to, and perhaps springs from, the research tradition on human social network supports (Fine, 2000; Wilson & Turner, 1998). Although in the past, service dogs have been considered important as functional aides and means to increased social involvement, greater community participation, and social support for people with disabilities (Camp, 2001; Collins et al., 2006; Fairman & Huebner, 2000), companion animals as less costly additions to social networks, or as agents of community integration, have received very little attention.

Pet ownership can be considered a form of occupation in that it is filled with personal and social meaning and involves a range of performance activities and affective experiences. From this perspective, it can be assumed that pet ownership, like other meaningful occupations, can contribute to improving the quality of life and life satisfaction of people living with serious mental illness (Goldberg, Brintnell, & Goldberg, 2002). Indeed, some evidence supports this relationship between pet ownership and quality of life. A study by De Souza (2000), which compared the way in which people receiving community-based mental health services and service providers understand the meaning of quality of life, highlighted the value of pets as part of the relationships and social support network of service recipients.

De Souza (2000) observed that “mental health consumers found comfort in the fact that they could talk to their pets without being judged, and that they could share personal details without worry of betrayal” (p. 88). This observation suggests that people with mental illness living in the community, who often report feeling isolated and rejected (Browne & Courtney, 2004; Davidson & Stayner, 1997; Prince & Prince, 2002; Stuart, 2004; Tryssenaar, Chui, & Finch, 2003; Yanos, Barrow, & Tsemberis, 2004), draw social and emotional benefits from their companion animals.

Contemporary perspectives on the occupations of people with mental illness are grounded in strong values supporting occupations occurring within the context of full community integration. Thus, the value of pet ownership as a meaningful occupation needs to be considered from this perspective. *Community integration*

is a right of all people and encompasses . . . social roles, . . . citizenship, self-determination, and . . . should result in community presence and participation of people with

psychiatric disabilities similar to that of others without a disability. (UPenn Collaborative on Community Integration, n.d., para. 4)

Contemporary conceptualizations of community integration have highlighted the need to understand it as a multi-dimensional construct if rehabilitation interventions are to influence meaningful change in the community lives of people with mental illness. For example, Aubry and Myner (1996) proposed a three-dimensional model of community integration including physical, social, and psychological aspects.

Companion Animals and Physical Community Integration

Physical community integration refers to the extent to which an individual spends time, participates in activities, and uses goods and services outside his or her home or facility in a self-initiated manner (Aubry & Myner, 1996; Wong & Solomon, 2002). A person with a mental illness engaging with a companion animal in a self-identified and meaningful outdoor activity (i.e., going for a walk or spending time with her or his pet outdoors) would be a sign that the process of physical community integration has been initiated. Although we found no studies linking human–animal interactions to physical community integration for people with mental illness, research has supported this relationship for people living with HIV/AIDS and physical disabilities (Allen & Blascovich, 1996; Allen, Hammon-Kellegrew, & Jaffe, 2000; Camp, 2001; Fairman & Huebner, 2000; Sachs-Ericsson et al., 2002).

Companion Animals and Social Community Integration

According to Aubry and Myner (1996), *social community integration* entails social contact with neighbors. Ware, Hopper, Tugenberg, Dickey, and Fisher (2007) described social integration as a process that is linked to developing and exercising capacities for connectedness and citizenship. Many studies have suggested that for people with physical disabilities (or health conditions), contact with an animal leads to fewer depressive symptoms (Collins et al., 2006) and greater community participation (Fairman & Huebner, 2000; Guest, Collis, & McNicholas, 2006; Valentine, Kiddoo, & LaFleur, 1993), increased social interaction and increased number of friends (Camp, 2001; Lane, McNicholas, & Collis, 1998), and greater community integration (Allen & Blascovich, 1996). Pets were reported to facilitate increased verbal interactions for elderly people (Fick, 1993; Raina, Waltner-Toews, Bonnet, Woodward, & Abernathy, 1999;

Roenke & Mulligan, 1998). For people with HIV/AIDS (Allen et al., 2000) and hospitalized people with mental illness (Barak, Savorai, Mavashev, & Beni, 2001; Haughie, Milne, & Elliot, 1992; Kovács, Kis, Rózsa, & Rózsa, 2004; Marr et al., 2000; Nathans-Barel, Feldman, Berger, Modai, & Silver, 2005), the therapeutic use of animals was associated with improved social functioning. Finally, pets were reported to increase social interaction for children with autism receiving school-based occupational therapy services (Sams, Fortney, & Willenbring, 2006). The role of pets as family members (Allen et al., 2000; Cohen, 2002) and their reported ability to facilitate social interactions with community members is important. It could be that pets have the capacity to influence the social networks of people with mental illness—social networks that are considered to be smaller, less dense, and less complex than those of the general population (Christiansen & Baum, 1997; Eklund, 2006; Gottlieb & Coppard, 1987).

Companion Animals and Psychological Community Integration

Psychological community integration refers to one's personal sense of community with neighbors (Aubry & Myner, 1996). According to the occupational therapist Hammell (2004), the importance of reciprocity by way of contributing to others is congruent with the concept of belonging. Belonging within a network of social support can both strengthen the ability to do and contribute to the pleasure and meaningfulness of doing. Enders-Slegers (2000) examined the meaning of companion animals in the life histories of elderly pet owners and identified the themes of attachment, opportunity for nurturance, reassurance of worth, social integration, reliable alliance, and guidance. Enders-Slegers (2000) indicated that "being responsible for the well-being of another living being enhances feelings of self-worth, and self-esteem" (p. 249). These themes were echoed in De Souza's (2000) study, which showed that people with mental illness felt that pets "provided an opportunity to care for 'someone' without the complexities of human relationship dynamics which are often dependent on conditional love and approval" (p. 40). Despite evidence in support of pets as enablers of community integration, a general population household survey (Stallones, Marx, Garrity, & Johnson, 1990) did not find support for the social effect of pet ownership. However, this study inquired about pets as part of the household rather than identifying the primary pet owner. A second study focusing on ambulatory community-dwelling elderly people did not find significant differences between pet owners and non-pet owners on level of happiness or life satisfaction (Crowley-Robinson & Blackshaw, 1998).

In sum, this literature review suggests that for people of various ages with a range of health conditions, pet ownership contributes to physical and social benefits, a sense of worth, life purpose, and self-esteem. Few studies have specifically examined pet ownership as a community occupation, and only one study has reported on the positive effects of companion animals for community-dwelling people with mental illness. In light of the literature on the social, occupational, and community marginalization of mental health clients, neglecting the investigation of pet ownership leaves an important gap in our current knowledge. This gap affects the service provision of occupational therapy professionals whose goal it is to enable self-identified, real-life occupation and citizenship.

Method

Purpose

The purpose of this study was twofold. The first purpose was to advance our current understanding of pet ownership of people with serious mental illness by answering the following questions:

- What proportions of mental health clients are pet owners and non-pet owners?
- What are the clinical and sociodemographic characteristics of pet owners and non-pet owners?
- What are the motivations for owning or not owning a pet, and what are the number and type of pets lived with and desired?

On the basis of the view that caring for pets is a meaningful occupation, the extensive literature review, and the reported benefits of service dogs and companion animals for various populations, our second purpose was to test the hypotheses that pet owners with serious mental illness living in the community would (1) engage more in meaningful activities and (2) demonstrate better physical, social, and psychological community integration than those living without pets.

Participants

Nonprobability convenience sampling of all 204 clients of three Assertive Community Treatment (ACT) teams was carried out. The clients served by the three ACT teams lived in a small city and its adjoining rural area in southeastern Ontario. "ACT is a service delivery model that provides comprehensive, locally based treatment to people with serious and persistent mental illnesses" (National Alliance on Mental Illness, n.d., para. 1). ACT provides individualized and multidisciplinary treatment, rehabilitation, and support (Stein & Santos, 1998), and ACT recipients typically have had a history of using high levels of intense community

support. Services are offered 24 hr a day, 365 days a year, within the natural context and demands of the person's own home and community (NAMI, n.d.). ACT is an evidence-based and widely disseminated model of service delivery, and in Ontario it has received extensive government health funding as a best-practice model. A systematic review of ACT has demonstrated its benefits in reducing hospitalizations and enabling independent community living, although outcomes associated with other measures of social recovery have been mixed (Marshall & Lockwood, 2008).

ACT team leaders were given a study information package during the research planning phase and asked for their assistance. We obtained ethics approval from a university research ethics board on the basis of the Tri-Council Policy Statement regarding ethical conduct for research involving humans (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2003). We considered recipients of ACT services pet owners if they met three of the following five criteria. Compared with others in the household, the mental health consumer (1) pays for the majority of pet-related expenses; (2) takes on most of the caregiving and training tasks; (3) is most likely to notice if the pet is sick, wants to go out, or is hungry; (4) spends more time with the pet; and (5) reports that the pet is her or his companion. Support for these criteria comes from the recognition that occupation (pet ownership) is a process of being occupied or being engaged in a "doing" experience (Velde & Fidler, 2002) and is the subjective, contextually bound (e.g., time, space, culture) engagement in activity (Pierce, 2001). We adopted these inclusion criteria because we recognized that living arrangements and variations in residency type may not permit all five criteria for pet ownership to be met; indeed, pet ownership in the general population reflects flexibility among these criteria.

Measurement Tools

First, ACT staff reported on the pet ownership of all 204 service recipients. Second, ACT service providers completed a survey for all ACT recipients who gave informed consent to participate in the study. The survey gathered data about clinical status of service recipients, including frequency of contact with ACT staff, number of hospital days and admissions during the past year, diagnosis, nature of the client's problems, and global functioning.

Second, the Global Assessment of Functioning (GAF; Burlingame et al., 2005) is the most widely used measure of overall functioning and part of the multiaxial psychiatric diagnostic system. We used the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (*DSM-IV*; American Psychiatric Association, 1994) as a tool for Axis V: GAF

assessment (as cited in Frances, First, & Pincus, 1995). The GAF is included in *DSM-IV* to supplement data about symptoms and diagnoses and to help predict the allocation and outcomes of mental health treatment (Moos, Nichol, & Moos, 2002). The GAF estimates symptoms and psychosocial and occupational functioning "for some portion of the past (e.g., the previous year)" (Frances et al., 1995, p. 76). It forms a single rating on a 100-point scale, divided into 10 operationalized intervals (e.g., 1–10 = 1). The highest interval, 91–100, indicates not only absence of significant psychopathology but also "positive mental health," such as no symptoms and superior functioning in a wide range of activities (see Frances et al., 1995, p. 75). The exact rating is made relative to the two adjacent intervals. The GAF is an updated version of the Global Assessment Scale (Endicott, Spitzer, Fleiss, & Cohen, 1976) and has been reported to have acceptable validity and reliability (Burlingame et al., 2005; Eklund, Erlandsson, & Persson, 2003).

Third, ACT clients who consented to participate in the study also completed a survey that included the Engagement in Meaningful Activities Scale (EMAS; Goldberg & Brintnell, 1994, as cited in Goldberg et al., 2002). The EMAS is a 12-item, 5-point Likert-type scale ranging from 1 (*never*) to 5 (*always*) that measures the frequency of meaningful activity involvement. The actual activity is not specified; rather, the EMAS asks how often the person feels that he or she engages in an activity. The EMAS was derived from an analysis of occupational therapy and other human occupation literature and developed for and used with people with mental illness living in the community. Cronbach's alpha for the EMAS is .84 (Goldberg et al., 2002), which suggests a high degree of internal consistency or reliability (Vogt, 1999). The measure was found to have good face validity (Goldberg et al., 2002). In addition to the EMAS, ACT clients completed 10 sociodemographic questions, 1 question about 10 potential motivations for and 10 potential motivations against living with a pet, and 1 question about the number and type of pet(s). The question assessing motivations for and against pet ownership was based on reasons frequently reported by the general population (Allen, Blascovich, Tomaka, & Kelsey, 1991; American Animal Hospital Association, n.d.; Clancy & Rowan, 2003; Delta Society, n.d.; Fine, 2000; Friedman, Katcher, Lynch, & Thomas, 1980; Ipsos-Reid, 2001; Johnson, 2001; Shore, Peterson, & Douglas, 2003; Siegel, 1990; Singer, Hart, & Zasloff, 1995; Taggart, 1996). The client survey also included three distinct community integration self-report scales described and used by Aubry and Myner (1996) with community-dwelling mental health clients. The Physical Community Integration Scale is a condensed 12-item, 5-point (i.e., 0, 1, 2, 3, and 4) version of Segal and Aviram's (1978) External Integration Scale,

ranging from 0 (*never*) to 4 (*very often*). It assesses the individual's frequency of involvement in different activities outside the household in the past month. The Social Community Integration Scale (Aubry, Tefft, & Currie, 1995) is a 13-item, 5-point scale ranging from 1 (*never*) to 5 (*frequently*) that measures the frequency and nature of social contact with neighbors. The Psychological Community Integration Scale (Perkins, Florin, Rich, Wandersman, & Chavis, 1990) is a 12-item true-false sense of community integration scale (1 = *true*; 0 = *false*). Items on the scale pertain to respondents' sense of belonging, feelings of influence, and emotional investment in relation to neighbors and the neighborhood. Cronbach's alphas for internal consistency for the three scales, respectively, are reported to be .73, .87, and .71 (Aubry & Myner, 1996).

Data Analysis Protocol

We used nonparametric statistics, such as the Mann-Whitney *U* test, to compare ordinal levels of measurement for pet owners and non-pet owners. A Mann-Whitney *U* test does not require that groups be of the same size, and it is deemed an excellent alternative to the *t* test when parametric assumptions are not met (Portney & Watkins, 1993). We used the chi-square test to compare categorical data obtained for pet owners and non-pet owners for statistically significant differences between the observed frequencies and the expected frequencies of variables presented in a contingency table.

We calculated effect sizes (*d*) for pet ownership status on the ordinal scales. The effect size expresses the magnitude of the difference between the two population means in standard deviation units. It is calculated by taking the difference between the pet owners' and non-pet owners' group means and dividing that difference by the standard deviation of the scores of both groups combined (Vogt, 1999). According to Cohen (1977, as cited in Portney & Watkins, 1993), the following conventions can be used: "small effect size (*d* = .20); medium effect size (*d* = .50); large effect size (*d* = .80)" (p. 653). We used SPSS for Windows Version 13 (SPSS, Inc., Chicago) to enter the responses to the coded survey questions and to calculate frequencies, the Mann-Whitney *U* test, the chi-square test, and the *t* test for age. (Significance levels were set a priori at $p \leq .05$.)

Results

Measures Completed by ACT Staff

What Is the Proportion of Mental Health Clients Who Are Pet Owners and Non-Pet Owners? Of the 204 ACT client participants, 166 (81.4%) were non-pet owners and 38

(18.6%) were pet owners, as reported by ACT staff. After consent was obtained, ACT staff completed 60 surveys (a 31.7% return rate). We calculated the survey return rate from all three ACT team clients who could be contacted by ACT staff during the 2-month data collection phase. Fifteen (13 non-pet owner and 2 pet owner) clients could not be reached at the time of data collection, and they were subtracted from this calculation. A response bias in favor of pet owners was evident: Of the 36 available pet owners, 20 (55.5%) took part in the survey, whereas of 153 non-pet owners, only 40 (26.1%) participated.

What Are the Clinical Characteristics of Pet Owners and Non-Pet Owners? Most ACT staff reported zero hospital days, zero hospital admissions, and weekly ACT contact for their clients during the past year. A Mann-Whitney *U* analysis did not detect a significant difference between pet owners and non-pet owners on these variables. Results from the chi-square analysis indicated that pet owners and non-pet owners were significantly different on diagnosis, with ACT staff reporting a diagnosis of schizophrenia for 31 of 39 (79.5%) non-pet owners ($\chi^2[1] = 9.2, p = .002$) and a diagnosis of mood disorder for approximately half (11 out of 20; 55%) of the pet owners ($\chi^2[1] = 11.9, p = .001$). Diagnosis was not reported for 1 non-pet owner.

We used *DSM-IV* (Axis IV: Psychosocial and Environmental Factors) to assess psychosocial and environmental client stressors (cited in Frances et al., 1995; see Table 1). Problems with the primary support group, problems with the social environment, and occupational problems were the most frequently reported stressors for both pet owners and non-pet owners. The chi-square results were not significantly different for pet owners and non-pet owners.

Analysis of the GAF for 37 (of 40) non-pet owners and 19 (of 20) pet owners using the Mann-Whitney *U* analysis indicated a significant difference between the groups, with pet owners having higher functioning ($z = -2.196, p \leq .05$, one-tailed). The effect size was .64. The pet owner distribution was slightly skewed toward higher scores or to the right. One *outlier* (i.e., an observation that lies outside the overall pattern of a distribution) for non-pet owners contributed to the distribution's being skewed toward lower scores or to the left. Removing this outlier did not change the level of significance on this measure, but the effect size decreased to .55. The GAF was not completed for 3 non-pet owners and 1 pet owner.

Measures Completed by ACT Clients

Thirty-nine non-pet owners and 20 pet owners completed the self-report measures. Table 2 presents their sociodemographic characteristics and shows that gender was the only sociodemographic variable for which a statistically significant

Table 1. Nature of Client Stressor for 60 Assertive Community Treatment (ACT) Clients

Client Stressor ^a	Non-Pet Owners (N = 37) ^b		Pet Owners (N = 20)		$\chi^2(1)$
	n	%	n	%	
Primary support group ^c	22	59.5	10	50.0	0.47, ns
Social environment ^d	20	54.1	8	40.0	1.03, ns
Occupational ^e	16	43.2	8	40.0	0.56, ns
Economic ^f	11	29.7	6	30.0	0.00, ns
Housing ^g	9	24.3	1	5.0	—
Legal ^h	7	18.9	1	7.7	—
Educational ⁱ	6	16.2	3	15.0	—
Other ^j	0	0	0	0	—

Note. Problems with access to health care were not assessed because participants received ACT services. Dashes indicate that the expected cell count was less than 5. ns = not significant at $p \geq .05$.

^aParticipants could choose more than one stressor.

^bMissing data for 3 non-pet owners.

^cFor example, death of family member, health problems in family, or disruption of family.

^dFor example, death or loss of friend, inadequate social support, or living alone.

^eFor example, unemployment, threat of job loss, stressful work schedule, difficult work conditions, job dissatisfaction, job change, or discord with boss or coworkers.

^fFor example, extreme poverty, inadequate finances, or insufficient welfare support.

^gFor example, homelessness, inadequate housing, or unsafe neighborhood.

^hFor example, arrest, incarceration, litigation, or victim of crime.

ⁱFor example, illiteracy, academic problems, or discord with teachers or classmates.

^jFor example, exposure to disasters, war, or other hostilities.

difference between pet owners and non-pet owners was found. Men were less likely to be pet owners than women.

What Are the Motivations for Owning or Not Owning a Pet, and What Is the Number and Type of Pets Lived With and Desired? Table 3 illustrates that the two most frequently reported motivations for pet ownership were “companionship” and “someone to love,” and the two most frequently reported reasons for not owning with a pet were “cost” and “landlord won’t allow.”

Of 38 non-pet owners who responded to the query about the desire to own a pet, 24 (63.2%) answered yes and 14 (36.8%) responded no. The main self-identified, hoped-for change reported by 20 (of 24) participants who wished for a pet was companionship. Of the 20 pet owners, the three most frequently owned pets were one cat ($n = 7$), one dog ($n = 3$), and two cats ($n = 3$). Of the 24 non-pet owners who wished for a pet, the most frequent response was one cat ($n = 10$) and one dog ($n = 7$).

Do Pet Owners Have Higher Engagement in Meaningful Activity Scores Than Non-Pet Owners? There was a significant difference between pet owners and non-pet owners on the EMAS ($z = -1.949, p \leq .05$, one-tailed). The effect size was small ($d = .42$). Pet owners tended to score higher on the EMAS, and their scores were more variable than those of non-pet owners. The distributions of scores for both groups

Table 2. Sociodemographic Characteristics of 59 ACT Clients

Characteristic	Non-Pet Owners (N = 39)		Pet Owners (N = 20)		Test Statistic
	n	%	n	%	
Residence					—
Urban	36	92.3	18	90	
Rural	3	7.7	2	10	
Parenting					$\chi^2(1, N = 58) = 0.411, ns$
Not a parent	26	68.4	12	60	
Parent	12	31.6	8	40	
Gender					$\chi^2(1, N = 59) = 8.61, p \leq .005$
Male	29	74.4	7	35	
Female	10	25.6	13	65	
Employment					—
No	36	92.3	15	78.9	
Part time	3	7.7	2	10.5	
Full time	0	0	2	10.5	
Marital status					—
Single	28	73.7	12	60	
Married/common law	1	2.6	5	25	
Separated/divorced/widowed	9	23.7	3	15	
Education					$\chi^2(1, N = 59) = 1.184, ns$
Less than high school	13	33.3	4	20	
High school completion	9	23.1	6	30	
Postsecondary	17	43.6	10	50	
Income					—
<\$20,000	31	81.6	18	90	
\$20,000–\$30,000	4	10.5	1	5	
>\$30,000	3	7.9	1	5	
Living arrangement					—
Alone	19	50.0	14	70	
Friends	3	7.9	0	0	
Partner and child	0	0	1	5	
Partner	0	0	4	20	
Housemates	10	26.3	0	0	
Family	5	13.2	1	5	
Other	1	2.6	0	0	
Residency type					—
Private home	5	12.8	3	15	
Rented apartment	20	51.3	16	80	
Room and board	7	17.9	1	5	
Group home	4	10.3	0	0	
Supported housing	3	7.7	0	0	
Age ($M \pm SD$) years	43.1 \pm 11.1		46.3 \pm 12.45		$t(56) = -1.86, ns$

Note. ns = not significant at $p \geq .05$. Dashes indicate that the expected cell count was less than 5; therefore, chi-square could not be calculated.

were skewed. One outlier for non-pet owners contributed to the distribution’s being skewed toward higher scores, and one outlier for pet owners added to the distribution’s being skewed toward lower scores. Without these outliers, the analysis changed to $z = -2.518, p \leq .01$, one-tailed, and the effect size increased to .78.

Do Pet Owners Have Higher Physical, Social, and Psychological Community Integration Scores Than Non-Pet Owners? Table 4 presents the means, standard deviations, and effect sizes for physical, social, and psychological community integration. For physical community integration,

Table 3. Motivations for and Against Pet Ownership Reported by 59 Assertive Community Treatment Clients

Non-Pet Owners' Motivations Against Pet Ownership (<i>N</i> = 39)		Pet Owners' Motivations for Pet Ownership (<i>N</i> = 20)	
Motivation ^a	<i>n</i>	Motivation ^a	<i>n</i>
Cost	16	Companionship	16
Landlord won't allow	10	Someone to love	16
No room for pet	8	Stress relief	14
Mental health	7	Grew up with pet	12
No time for pet	7	Social support	12
Frequent moving	4	Mental health	12
Never had a pet	2	Sense of purpose	12
No interest	2	Routine	12
Allergies	1	Exercise	10
Clean up ^b	3	Keep it for son ^b	1
Not known option ^b	2	Comfort ^b	1
Can't take care of it ^b	2		
Not the right time ^b	2		
Disease/destructive ^b	2		

^aCould choose more than one motivation.

^bOther category.

results were not significant ($z = -0.508, p \geq .05$, one-tailed). The effect size was almost zero. One outlier for pet owners contributed to the distribution's being skewed to the right. Removing this outlier resulted in complete overlap of the two distributions, indicating no difference between pet owners and non-pet owners on this measure. For social community integration, the results of the test were in the expected positive direction ($z = -2.502, p \leq .01$, one-tailed). There were no outlying scores, and we obtained a large calculated effect size, indicating a great degree of separation between the pet owner and non-pet owner score distributions. For psychological community integration, the results of the test were in the expected positive direction ($z = -2.073, p \leq .05$, one-tailed), and we obtained a medium effect size. One outlier for pet owners and two outliers for non-pet owners contributed to both distributions being skewed toward lower scores. Removing these outliers did not change the significance level of this measure, but the effect size increased to .64.

Discussion

Several study limitations need to be considered when evaluating the meaning of the findings. There was a response bias in favor of pet owners returning the survey. Case managers were not unaware of the purpose of the study, which may have affected their GAF ratings. The study acquired data at one point in time and therefore may not adequately reflect the role of companion animals over the course of community living for people with serious mental illness. We did not use an experimental design, which therefore limits our ability to interpret findings as being caused directly by pet ownership even though they do suggest relationships.

Table 4. Community Integration Results of Mann-Whitney Analysis for 59 Assertive Community Treatment Clients

Measure	Non-Pet Owners (<i>N</i> = 39)		Pet Owners (<i>N</i> = 20)		<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Physical community integration (ns)	16.47 ^a	5.63	16.60	8.15	.02
Social community integration**	22.95	7.67	32.90	14.14	.88
Psychological community integration*	7.61	2.96	9.10	2.31	.56

Note. ns = not significant.

^aData missing for 1 non-pet owner.

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

Proportion of Mental Health Clients Who Are Pet Owners and Non-Pet Owners

The survey return rate of 31.75% was low but within the typical range of 30% to 60% (Portney & Watkins, 1993). The pet owner response bias may mean that pet owners were more likely to perceive this survey as relevant to them, whereas people without pets might not have seen an immediate benefit to participating. Alternatively, despite the ACT teams' expressed commitment to participating in the study, time demands and variable investment in the study across ACT staff may have affected study recruitment.

To the best of our knowledge, this is the first time a systematic study on the proportion of pet ownership among community-dwelling people with serious mental illness has been reported. Of the current study population, 18.6% were pet owners (with all but 1 participant owning a cat or dog), suggesting that a substantial minority of people with mental illness are engaged in this occupation. The percentage is considerably lower than the Ipsos-Reid (2001) survey indicating that "more than 53% of Canadian households own a dog or a cat ($n = 1,500$)" (p. 21). The discrepancy in rates could be explained, at least in part, by a difference in the definition of pet ownership. The Ipsos-Reid (2001) study did not provide specific criteria for its definition of pet ownership, and it is likely that our stringent criteria resulted in more conservative estimates of pet ownership.

A second explanation is that the community-dwelling people with mental illness met the criteria for poverty (Sarlo, 2001), and financial constraints likely contributed to restrictions in dog and cat ownership as a desired occupation. Residency type (living in a rented room or a group home rather than owning a home) poses a barrier to pet (especially dog) ownership. For people who rent an apartment in Ontario, the Residential Tenancies Protection Act pertaining to pets states that a tenant can be evicted for having a pet only when the pet interferes with the reasonable enjoyment of the premises by other tenants, the animal causes allergies, or the animal (or species) is deemed to be inherently dangerous (Ontario Rental Housing Tribunal, n.d; Statutes of

Ontario, 2006). Yet the barrier of residency type is reflected in people's response to motivations against pet ownership.

Clinical and Sociodemographic Characteristics of Pet Owners and Non-Pet Owners

In our study, more pet owners than expected by chance were female and more non-pet owners than expected were male. Previous studies with 351 healthy undergraduate students who were presently pet owners (Taggart, 1996) and 2,291 Internet survey respondents in the United States (Tower & Nokota, 2006) obtained similar results. From an occupational therapy perspective, it can be argued that like mothering (Esdaile & Olson, 2004), pet ownership is a socially constructed occupation linked to femininity. Women with serious mental illness have described the experience of motherhood as "disrupted occupation" (McKay, 2004). Therefore, for some women, pet ownership may represent continuity of a feminine identity or the sense that despite mental illness, one is able to engage in a culturally sanctioned occupation and social role.

Our survey revealed that most of the study participants who did not own a pet were men with a diagnosis of schizophrenia. The diagnosis of schizophrenia has been linked with greater impairment in social and occupational functioning than the diagnosis of an affective disorder (Samson, Simpson, & Tsuang, 1988; Tibbo, Joffe, Chue, Metelitsa, & Wright, 2001), especially for men (Grossman, Harrow, Rosen, & Faull, 2006), with associated issues related to negative societal attitudes, low expectations from service providers (Lloyd & Waghorn, 2007), and high levels of self-stigmatization (Corrigan & Watson, 2002; Van Dorn, Swanson, Elbogen, & Swartz, 2005). All of these factors may interfere with non-pet owners' ability to engage in pet ownership. Remember, however, that mental health clients receiving ACT services all have serious and persistent mental illness characterized by a need for high levels of and continuous treatment, rehabilitation, and support services.

We found a significant difference between pet owners and non-pet owners, with the former having a higher mean GAF score interval. It is possible that pet owners in this study had fewer symptoms and better psychosocial and occupational functioning to start with, which may have enabled them to care for a pet. Future studies might consider an alternative measure of function that treats measures of symptoms and social-occupational function as distinct (Malla, 2001).

Motivation for Owning and Not Owning a Pet

Cost was the number one reason against pet ownership and has previously been identified as a main barrier to pet ownership for this population (Dobbs, 2003). Given the opportunity, a substantial number of study participants stated that

they would like to own a pet ($n = 24$; 63.2% of 38 respondents). This is consistent with De Souza's (2000) finding that living with a pet is viewed as a positive experience. Companionship, the top motivation for pet ownership for our population of mental health clients, matches the number one motivation of the North American population (American Animal Hospital Association, n.d; Ipsos-Reid, 2001; Taggart, 1996).

Engagement in Meaningful Activity Scale Scores

As we hypothesized, pet owners did have higher EMAS scores than non-pet owners, but we obtained only a small effect size. Removing the outliers increased the level of significance and effect size of this measure, lending stronger support for our prediction. To test this hypothesis, it would have been advantageous to have a measure asking more specific questions related to the occupation of pet ownership. Velde, Cipriani, and Fisher (2005) stressed that occupation-based assessments including pet ownership need to be developed.

Physical, Social, and Psychological Community Integration Scores

The results of this survey were not in keeping with the prediction that pet owners would report higher levels of physical community integration than non-pet owners. This measure's low sensitivity to detect differences in the type of physical community integration expected in the context of pet ownership may help to explain this finding. For example, pet ownership is unlikely to influence attendance at local community entertainment, religious, or work sites. In addition, it may be that the type of pets owned influences physical integration. Cats, a popular pet among the study sample, are unlike dogs in that they are not typically associated with their owners' venturing into the community. Consistent with previous research on community participation (Fairman & Huebner, 2000; Guest et al., 2006; Valentine et al., 1993), social interactions (McNicholas & Collis, 2000; Sams et al., 2006), and community integration (Allen & Blascovich, 1996), our key finding was that pet owners scored higher than non-pet owners on social community integration. Higher scores among pet owners for community integration were consistent with De Souza's (2000) qualitative study of the experience of quality of life as defined by people with serious mental illness living in the community.

Implications for Occupational Therapy Professionals

This study's key finding supports the hypothesis that pet owners demonstrate better social community integration than non-pet owners. We found a significant but weaker

relationship for the hypotheses that pet owners will engage in meaningful activity more than non-pet owners and that pet owners will have higher psychological community integration than non-pet owners. These findings, along with the interest in pet ownership among ACT clients, suggest that occupational therapy professionals need to raise dialogue about this occupation as a potential focus of both services and future research.

The occupation of pet ownership requires many skills, including cognitive, social, assertiveness, negotiation, and observation skills; ability to regulate affect; caregiving skills; the ability to maintain a pet care schedule; and the ability to absorb and process information. Using the person-environment-occupation model (Law et al., 1996), occupational therapy interventions to increase these pet-related skills at the person level include cognitive skills training (e.g., providing cues in the form of schedules and problem solving around pet behavior); facilitation of a pet group to practice social, assertiveness, and negotiation skills; and grading the amount and complexity of information. Interventions at the occupation level include grading the occupation (e.g., starting with living creatures that have low care requirements) and establishing a pet contract (e.g., planning who will care for the pet if the person cannot do so or if the person-pet match does not work out). Interventions at the environment level include selecting a pet in line with the person's physical and social environment, considering the environmental context necessary to support cleanliness (e.g., places to store a litter box, access to the outdoors) to avoid illness of the person and pet, creating environmental supports (e.g., collaboration with veterinary technicians to colead a pet care workshop), teaching and advocacy related to the rights and responsibilities of being a pet owner in rental housing, and collaborating with housing agencies and veterinarians to develop creative pet solutions.

From a research perspective, the study suggests the need to develop research measures that would capture the degree to which companion animals are part of the social network of people with serious mental illness. For instance, Eklund (2006) used the Interview Schedule for Social Interactions (Henderson, Duncan-Jones, Byrne, & Scott, 1980). One problem with this reliable and valid scale (Henderson et al., 1980; Henderson, Byrne, & Duncan-Jones, 1981; Law, Baum, & Dunn, 2005; McDowell, 2006) is that it focuses exclusively on people to evaluate the construct of social network.

The influence of being in an ACT treatment program, residency type, gender, type of pet, and diagnosis may partly explain our results. Future research should report time since admission to ACT and examine the relationship between hospitalization and pet ownership. Research could also focus

on pet ownership in non-ACT contexts and compare community integration outcomes of pet owners and non-pet owners while controlling for confounding variables.

Having socially valued occupation, such as pet ownership, in common with community members presents one opportunity to build capacity, to be productive, and to not only live in the community but also become part of it. Essentially, ability, productivity, and full citizenship are the ingredients of mental health (World Health Organization, 2001). On the basis of client preferences, pet ownership histories, and skills, social participation could be fostered by creating and involving mental health clients in community pet events in support of a valued cause. Active participation would enhance overall health through having fun and being able to make a difference.

Finally, the subject of pet ownership is likely to raise controversy among mental health service providers. Occupational therapy professionals, with their knowledge of occupation, function, mental health, and the community, are ideally positioned to encourage open dialogue among providers and to lead in the development of innovative service options. ▲

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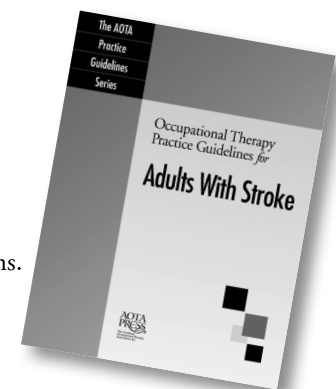
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