Journal of Veterinary Behavior 9 (2014) 311–315

Contents lists available at ScienceDirect

Journal of Veterinary Behavior

journal homepage: www.journalvetbehavior.com

Research

Benefits of dog ownership: Comparative study of equivalent samples

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ARTICLE INFO

Article history:
Received 11 February 2013
Received in revised form
19 August 2014
Accepted 19 August 2014
Available online 1 September 2014

Keywords:
human-dog interaction
perceived health
perceived stress

ABSTRACT

Owing to the inconclusive findings of research regarding the health benefits of pet ownership, we compared perceived health, stress, life satisfaction, happiness, and psychosomatic symptoms in dog owners and non–dog owners. As an attempt to overcome some earlier methodological issues, the sample consisted of 602 individuals from Mexico aged ≥18 years (377 dog owners and 225 non–dog owners). These 2 groups were equivalent in age, gender, educational level, marital status, employment, parental status, and the presence of chronic illness. The results indicated that, compared to non–dog owners, the dog owners' scores were significantly lower for psychosomatic symptoms and stress and were higher for general health, vitality, emotional role, absence of bodily pain, social functioning, and mental health. No significant difference between groups was found for life satisfaction, happiness, physical functioning, or physical role. Group differences might occur because individuals who perceive themselves to be healthier also choose to have a pet; nevertheless, 273 (72.6%) had owned a pet during the previous 5 years, and 86 (22.8% of the overall sample) reported that they had always owned dogs. In conclusion, the dog owners perceived themselves as healthier—but not happier—than non–dog owners.

Introduction

Traditionally, dogs have been bred to perform specific tasks. Their most common current role is that of companionship, and they provide their owners with psychological and social support as well as health benefits (King et al., 2011). No unified empirically supported theoretical framework exists to describe how companion animals benefit the mental and physical health of human beings (Kruger and Serpell, 2006). Two of the most commonly cited theories are the biophilia hypothesis and the social support hypothesis (O'Haire, 2010). The biophilia hypothesis proposes that human beings have an innate propensity to attend to and be attracted by other animals and living things. This hypothesis highlights the ability that human-animal interactions have to reduce cardiovascular, behavioral, and psychological indicators of stress and anxiety. The social support hypothesis proposes that companion animals themselves provide a social support and that they act as facilitators of social interactions between other human beings. This hypothesis emphasizes the ability of human-animal interactions to reduce loneliness and increase psychological well-being and life satisfaction (O'Haire, 2010). We selected variables that could empirically support both theories and that have been previously studied in relation to the benefits of companion animals. For the biophilia hypothesis, the variables included perceived health, perceived stress, and psychosomatic symptoms; and for the social support hypothesis, we measured life satisfaction and happiness.

Although not generally conducted with Hispanic populations (González and Landero, 2011), research into the health benefits of pets and the benefits of animal-assisted therapy is not new. Dog owners are healthier (Wells, 2007), have higher levels of exercise, better sleep, fewer days of work missed because of illness, and fewer doctor visits (Headey et al., 2008). Pet owners have reported significantly less loneliness than those who did not own pets (Black, 2012). Dog walking has been associated with greater improvement to physical health in older adults than walking with other individuals (Cangelosi and Sorrell, 2010).

Experimental studies have shown that positive interactions with dogs are associated with decreases in blood pressure and increases in oxytocin, a neurochemical associated with social ties (Odendaal, 2000). A single session with a therapy dog decreased perceived anxiety (Hoffmann et al., 2009). Preschool children showed decreased arterial pressure, heart rate, and stress behaviors when a routine physical examination was conducted in the presence of a companion animal (Nagengast et al., 1997). Both the interaction

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1558-7878/$ – see front matter © 2014 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.jveb.2014.08.002

with an unknown therapy dog and the interaction of people with their own dogs reduced the physiologic indicators of stress (Barker et al., 2010). Other studies have shown that animal-assisted therapy may be as good as interventions such as cognitive behavior therapy (Nepps et al., 2011).

The benefits of pet ownership are not guaranteed and might depend on many different factors, such as the appropriateness of a particular dog as a pet (King et al., 2011) or how an individual perceives the relationship with their dog. The greatest benefits in perceived health and stress levels appear to occur when the dog was regarded as a family member (González and Landero, 2011).

Owners' perception of the relationship with their dog might be associated with a number of variables. Gender and education have been associated with the nature of the dog-owner relationship: Women and college-educated individuals tended to regard dogs as companions rather than as merely pets or property (Dotson and Hyatt, 2008). Yet no differences in self-reported mental health, general health, loneliness, or the frequency of social contact were reported when dog owners and non–dog owners were compared (Rijken and Beek, 2011).

In a review of studies about the effects of human-animal interaction on health and happiness, Herzog (2011) criticized the methodological deficiencies of several studies and noted that most studies reporting the benefits of pet ownership were not experiments that randomly assigned individuals to pet-owning and non–pet-owning groups, but were correlational studies that compared individuals who chose to own pets with individuals who chose not to own pets.

It is difficult to perform conventional, controlled, experimental studies about pet ownership. Wells (2007) argued that because studies in this area were not methodologically robust, longitudinal studies with standardized measures were needed. Dotson and Hyatt (2008) suggested that more studies comparing dog owners with non–dog owners might help. The methodological limitations are difficult to address, but an investigation of equivalent groups of dog owners and non–dog owners may provide an alternative approach.

To overcome some of the previously identified methodological issues, the present study, one of the few conducted in Mexico, compared the perceived health, perceived stress, life satisfaction, happiness and psychosomatic symptoms in two equivalent groups that differed only in dog ownership.

Materials and methods

Participants

The survey was answered anonymously, and all data were treated confidentially. All study participants signed an informed consent form. A snowball sampling technique was used. Individuals who answered the survey were asked to invite other dog owners to respond. The inclusion criteria for the dog-owning group required that the participants were adults living in the urban area of Monterrey, Mexico who owned at least 1 dog and spoke Spanish. After obtaining a sample of 250 dog owners, the demographic characteristics of this group were analyzed, and an equivalent group of non–dog owners was solicited and evaluated. For this second group, a quota sampling method was used that considered the age, sex, and education level of the participants. Meanwhile, individuals continued to be added to the first group. The final sample consisted of 602 participants with ages ranging between 18 and 63 years (mean = 26.6; standard deviation [SD] = 10.3) with 377 dog owners and 225 non–dog owners. The groups did not differ significantly with respect to the sociodemographic variables listed in Table 1. None of the demographic data pertaining to the dogs formed inclusion or exclusion criteria for the dog-owner group.

Table 1
Characteristics of the sample

Characteristic	Dog owners (n = 377)	Non–dog owners (n = 225)	Statistical analysis
Age (in years)			$t(600) = -0.269$;
Median	22.0	22.0	$P = 0.788$
Mean	26.7	26.4	
SD	10.7	9.7	
Minimum-maximum	18-63	18-62	
Education (in years)			$t(600) = -1.625$;
Median	14.0	15.0	$P = 0.105$
Mean	13.7	14.1	
SD	2.6	2.7	
Minimum-maximum	6-25	6-25	
Gender, n (%)			$\chi^2(1, N = 602) = 1.356$;
Women	237 (62.9)	152 (67.6)	$P = 0.244$
Marital status, n (%)			$\chi^2(6, N = 602) = 5.404$;
Single	270 (71.6)	169 (75.1)	$P = 0.493$
Married	88 (23.3)	43 (19.1)	
Other[a]	19 (5.1)	13 (5.8)	
Employed, n (%)			$\chi^2(1, N = 602) = 0.571$;
No	213 (56.5)	120 (53.3)	$P = 0.450$
Children, n (%)			$\chi^2(1, N = 602) = 0.598$;
No	281 (74.5)	174 (77.3)	$P = 0.440$
Presence of a chronic illness, n (%)			$\chi^2(1, N = 602) = 1.493$;
No	353 (93.6)	216 (96.0)	$P = 0.222$

[a] Widowed, divorced, or cohabiting.

Instruments

This study used the version of the Life Satisfaction Scale (Diener et al., 1985) published by Cabañero et al. (2004), which was based on Arce's (1994) translation with a reported Cronbach alpha coefficient of 0.82. A 5-item Likert-type scale with 4 response options was adopted, and its total score ranged from 4 to 20 with a Cronbach alpha of 0.84.

The Spanish version of the Subjective Happiness Scale (Lyubomirsky and Lepper 1999), translated by Hernández (2012), was used to evaluate the perceived happiness. This scale contains 4 items and exhibited a Cronbach alpha of 0.73, which is considered adequate for reliability. The Cronbach alpha of the present study was 0.63.

The Patient Health Questionnaire (Kroenke et al., 2002) was designed to measure symptoms' intensity and severity and was used to assess psychosomatic symptoms. The Patient Health Questionnaire is a 15-item Likert-type scale with scores ranging from 0 to 2 and 4 categories of severity of somatic symptoms: 0-4 (minimal), 5-9 (low), 10-14 (medium), and 15-30 (high). Kroenke et al. (2002) reported a Cronbach alpha reliability coefficient of 0.80. In our study, Cronbach alpha was 0.76.

We evaluated stress using González and Landero's (2007) version of the Perceived Stress Scale (Cohen et al., 1983), which was adapted to Mexican population based on a translation developed for Spain (Remor, 2006; Remor & Carrobles, 2001). Scores on the 14-item scale range from 0 (never) to 4 (very frequently). The total score ranges from 0 to 56. The Cronbach alpha for this scale in our study was 0.81.

The Short Form Health Survey (SF-12), which was adapted by Alonso et al. (1998) from the SF-12 (Ware et al., 1996), was used to evaluate perceived health. The SF-12 is a 12-item version of the Short Form Health Survey (SF-36) that adequately correlates with the complete scale. It assesses the following 8 domains: physical functioning (2 items), social functioning (1 item), physical role (2 items), emotional role (2 items), mental health (2 items), vitality (1 item), bodily pain (1 item), and general health (1 item). The responses to the Likert-type scale evaluate the intensity or frequency, and the total scores were transformed into a scale of 0-100 points.