Papers

Number and ownership profiles of cats and dogs in the UK

J. K. Murray, W. J. Browne, M. A. Roberts, A. Whitmarsh, T. J. Gruffydd-Jones

A random sample of 2980 households in the UK in 2007 showed that 26 per cent and 31 per cent of households owned cats and dogs, respectively. Households with gardens were more likely to own cats and dogs than households without gardens. Households in which someone was qualified to degree level were more likely to own cats and less likely to own dogs than other households. Cats were more likely to be owned by semi-urban/rural households and by female respondents. Dog ownership significantly decreased the likelihood of cat ownership, and respondents aged 65 years or more were less likely to report that their household owned a cat than younger respondents. Households with one or more dogs and children aged 11 to 15 years were more likely to own a cat than other households. The likelihood of dog ownership increased as household size increased. Dogs were more likely to be owned by rural households, and less likely to be owned by households with cats or children aged 10 years or younger. Female respondents and those aged less than 55 years were more likely to report dog ownership than other respondents. The estimated size (and 95 per cent confidence intervals) of the owned cat and dog populations in the UK in 2006 was 10,332,955 (9,395,642 to 11,270,269) cats and 10,522,186 (9,623,618 to 11,420,755) dogs.

CATS and dogs are popular pets in the UK. Reliable estimates of the size of cat and dog populations are useful to those working within the animal health and welfare professions, including rescue charities, vets, pet insurance companies, pharmaceutical companies and pet food manufacturers. However, estimates of the UK domestic cat and dog population reported in the scientific literature were calculated over 20 years ago (Thrusfield 1989), and periodic estimates reported by the Pet Food Manufacturers Association (PFMA) (2008) have not specified the methodology used to estimate the size of these populations. In 1989, Thrusfield published estimates of approximately 6.2 million cats and 6.4 million dogs in the UK during 1986. More recently, in 2007, the size of the UK domestic cat and dog population was estimated to be 7.2 million cats and 7.3 million dogs (PFMA 2008); however, the reliability of these data appears questionable given the variance of estimates published over recent years. Knowledge of the sampling method is important as it can influence estimates of the pet population. For instance, random digit dialling surveys typically produce lower estimates than postal surveys of non-randomly selected households (Patronek and Rowan 1995).

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Statistical models have been used to predict the size of the pet cat population in Australia (Baldock and others 2003) and the size of the pet cat and dog populations in the USA (Nassar and Mosier 1991). Baldock and others (2003) used a modelling approach based on life table data obtained by telephone surveys to predict the mean size of the household cat population in Australia, together with the minimum and maximum estimates based on the most likely value ±5 per cent. Studies have shown that the probability of a household owning one or more cats or dogs is related to the number of people that live in that household (Nassar and Mosier 1991, Westgarth and others 2007), whereas the type of household (owned or rented) has been shown to be related to dog ownership, and the type of dwelling (single-family dwelling/other type of dwelling) was related to cat ownership in two US regions (Nassar and Mosier 1986). Nassar and Mosier (1991) explored the relationships between data relating to the number of household occupants and type of household (owned or rented) obtained by survey and US census data, and then used statistical models to estimate the size of pet cat and dog populations.

The accuracy of population estimates derived from these differing methods is reflected by the width of their 95 per cent confidence intervals (CIs); however, these are frequently not reported (for example, Thrusfield 1989, Nassar and Mosier 1991, PFMA 2008), making comparisons and critical evaluation of the usefulness of predicted estimates difficult.

The aim of this study was to identify characteristics of dog-owning and cat-owning households from a large cross-sectional study and to use these data to estimate the size of the dog and cat populations in the UK, using a method that could easily be repeated to enable pet ownership trends to be monitored.

Materials and methods

Data collection

A cross-sectional study was used to obtain data relating to cats and dogs owned by households in the UK. A commercial company (Tracesmart)

TABLE 1: Description of variables and their univariable P values for UK households randomly selected during 2007 when tested for association with cat and dog ownership

Variable	Description	P value	
		Cat ownership	Dog ownership
Geographical location	UK postcode areas (London, rest of UK)	0.019	0.002
Sex of respondent	Male/female	<0.001	0.008
Dogs owned	Any dogs owned (yes/no)	0.051	–
Cats owned	Any cats owned (yes/no)	–	0.051
Number of adults	Number of adults (1, 2, 3, 4, 5 or more)	0.002	<0.001
Children in household	Children (aged ≤16 years) (yes/no)	<0.001	<0.001
11-15 year olds	Children aged 11-15 years (yes/no)	0.002	<0.001
5-10 year olds	Children aged 5-10 years (yes/no)	<0.001	0.017
<5 year olds	Children aged <5 years (yes/no)	0.192	0.640
Number of people in household	Number of people (1, 2, 3, 4, 5 or more)	<0.001	<0.001
Own/rent house	Owns/rents house	0.022	0.251
Garden	Has a garden (yes/no)	<0.001	<0.001
Location	Urban/semi-urban/rural	0.003	<0.001
Annual household income	<£10,000, £10,000-£14,999, £15,000-£19,999, £20,000-£24,999, £25,000-£29,999, £30,000-£39,999, £40,000-£49,999, ≥£50,000	0.014	0.474
Qualifications	Highest level of qualification obtained (none, GCSEs/O levels, A levels, HND/degree, postgraduate/ professional qualification)	<0.001	<0.001
Age of respondent	16-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, >65 years	0.009	<0.001

supplied contact details for a random sample of households listed on the UK electoral roll (the electoral roll consists of adults over the age of 18 who are eligible to vote and does not include travellers, active serving forces members, some government personnel and non-British citizens). Data were collected between July 16, 2007 and December 16, 2007 using a telephone questionnaire that was administered by six trained interviewers. Households that were listed as 'ex-directory' or were registered with the Telephone Preferential Service (TPS) were excluded from the sample. Telephone calls were made on weekday evenings between 6 pm and 9 pm and at the weekends between 10 am and 5 pm. A maximum of three attempts were made to contact each household. A total of 13,795 household telephone numbers were used and contact was made with people from 8961 households. Questionnaires were completed by 2980 householders, representing a 33.3 per cent response rate from households with which contact had been made. In order to reduce response bias resulting from households being informed that the study was about cats and dogs, the study was described as a study of UK pets and it was stressed in the introduction that the interviewers needed to speak to people who did not own pets as well as those who did. Data were collected on the number of cats and dogs owned by all respondents. Additional data relating to cats were collected and have been reported elsewhere (Murray and others 2009). Hence, questionnaires took approximately two to three minutes to complete by households without cats and approximately 10 minutes to complete by cat-owning households. Closed questions were predominantly used in the questionnaire and all data used in the analyses reported in this study were collected through the use of closed questions. A copy of the questionnaire is available on the University of Bristol website (www.vetschool.bris.ac.uk/projects/NeuteringQuestionnaire072007.swf), and further details of the questionnaire administration have been documented elsewhere (Murray and others 2009).

Analysis of characteristics of dog-owning and cat-owning households

Outcomes

The outcomes under investigation in this study were the ownership by a household of one or more cat and/or one or more dog.

Potential risk factors

Data relating to potential risk factors associated with the household (summarised in Table 1) were collected during the telephone questionnaire that was completed for each respondent.

Statistical analysis

Potential risk factors were tested for association with dog or cat ownership using univariable logistic regression models. The statistical package Egret (Cytel Software Corporation) was used for data analysis. Variables with a univariable P value of <0.2 were considered for inclusion in a multivariable model, which was built using the technique of backward elimination. In order to improve the fit of the model (assessed by the change in deviance) and to minimise the degree of freedom, some variable categories were combined (for example, urban and semi-urban locations) if the categories were considered similar in nature. The effect of biologically plausible interactions between variables was also tested for in the model.

Power of the study

The study had 80 per cent power to detect odds ratios (ORs) of 1.5 or greater, based on a 0.05 probability of a type 1 error (95 per cent confidence) and assuming that 10 per cent of controls were exposed to risk factors (Epi-Info 6; CDC).

Estimating the size of the dog and cat populations in the UK

The number of household occupants (categorical with five categories: one, two, three, four, or five or more) and the geographical location of the household (categorical with two categories: London, other areas of the UK) were both shown to be significantly associated with the probability of dog or cat ownership in this dataset (data not shown) and were therefore used in the calculations of the population estimates.

The most recent UK census was conducted in 2001, with detailed information relating to the number of occupants per household (General Register Office for Scotland 2008, National Statistics Online 2008, Northern Ireland Statistics and Research Agency 2009), and the average household sizes (2.36, 2.37, 2.27 and 2.65 people/household) were published for England, Wales, Scotland and Northern Ireland, respectively (National Statistics 2005). More recent mid-year population estimates of the number of households and the average household size in 2006 in England, Wales, Scotland and Northern Ireland were available (2.32, 2.30, 2.19 and 2.55, respectively) (Welsh Assembly Government 2007, National Statistics Online 2008, Northern Ireland Executive 2008).

As the average UK household sizes were considered to be similar in 2006 and 2001, the assumption was made that the proportion of households within London, outside of London, and with one, two, three, four, or five or more occupants, was unchanged from the 2001 census data (National Statistics Online 2008). The number of UK households categorised according to the household location and the number of occupants is summarised in Table 2.

A commercially available statistical software package (SPSS v 14.0) was used to fit a linear regression model to the data collected.

TABLE 2: Number of households in the UK in 2001 and 2006, categorised according to the number of household occupants and the location of the household

Household location and number of occupants	Number of households in 2001*	Number of households in 2006†
London		
1 person	1,046,888	1,104,271
2 people	885,233	933,756
3 people	453,878	478,757
4 people	378,497	399,244
5 or more people	241,134	254,351
Rest of the UK		
1 person	6,348,127	6,696,089
2 people	7,418,293	7,824,914
3 people	3,349,927	3,533,547
4 people	2,893,888	3,052,512
5 or more people	1,417,464	1,495,160
Total	24,433,329	25,772,601

* General Register Office for Scotland (2008), National Statistics Online (2008), Northern Ireland Statistics and Research Agency (2009)
† Welsh Assembly Government (2007), Northern Ireland Executive (2008)

TABLE 3: Parameters of the linear regression model fitted to data collected from randomly selected UK households in 2007 to estimate the size of the owned cat population

	Coefficient (se)
London	−0.233 (0.095)
Household size	
1 person household	0.285 (0.037)
2 person household	0.459 (0.032)
3 person household	0.551 (0.048)
4 person household	0.458 (0.048)
≥5 person household	0.592 (0.067)

TABLE 4: Parameters of the linear regression model fitted to data collected from randomly selected UK households in 2007 to estimate the size of the owned dog population

	Coefficient (se)
London	−0.247 (0.093)
Household size	
1 person household	0.254 (0.036)
2 person household	0.413 (0.031)
3 person household	0.537 (0.047)
4 person household	0.626 (0.047)
≥5 person household	0.794 (0.065)

For ease of calculating population size CIs, all five categories of household size were included in the model and no intercept was therefore included. Details of the models calculated are shown in Tables 3 and 4 and include main effects for household size and location, but not interactions between the two sets of effects, as they were not statistically significant. The predicted cat and dog numbers for each category were then multiplied by the number of households within each category to derive estimates for the number of dogs and cats in each category, which were summed to give the overall population sizes. The standard errors of these population estimates can be found by using the variance-covariance matrix of the parameters in the linear model.

Results

Questionnaires were completed by 2980 households; however, the number of cats and/or dogs was not supplied by all respondents. A total of 26 per cent (760/2978) of households owned one or more cats and 31 per cent (911/2975) of households owned one or more dogs.

Numbers of cats and dogs per household

The majority (58.3 per cent) of households owning cats had only one cat (443/760), 29.3 per cent (223/760) owned two cats, 7.2 per cent (55/760) owned three cats, 2.1 per cent (16/760) owned four cats, 1.4 per cent (11/760) owned five cats and 1.6 per cent (12/760) owned between six and 12 cats. The mean and median number of cats owned was 1.66 and one cat per cat-owning household, respectively.

The majority (73.3 per cent) of households owning dogs had only one dog (668/911), 18.9 per cent (172/911) owned two dogs, 4.0 per cent (36/911) owned three dogs, 1.9 per cent (17/911) owned four dogs, 1.0 per cent (9/911) owned five dogs and 1.0 per cent (9/911) owned between six and 17 dogs. The mean and median number of dogs owned was 1.44 and one dog per dog-owning household, respectively.

A total of 7 per cent of households (210/2975) owned both one or more cats and one or more dogs.

Characteristics of cat-owning and dog-owning UK households

Tables 5 and 6 summarise the two final multivariable models produced for characteristics associated with cat and dog ownership in UK households. Hosmer-Lemeshow test statistics were used to assess the overall goodness-of-fit of the final models, and both were considered to be good model fits (P=0.88 for the model for cats presented in Table 5 and P=0.73 for the model for dogs presented in Table 6).

Estimations of the size of the UK cat and dog populations

The proportion of households within each of the 10 categories formed by household size and location, calculated from the 2001 census data and from the study sample, were summarised, together with the mean number of dogs and cats per household reported in the study sample for each of the 10 categories (Table 2).

The estimated size (and 95 per cent CIs) of the cat and dog populations in the UK in 2006 was 10,332,955 (9,395,642 to 11,270,269) cats and 10,522,186 (9,623,618 to 11,420,755) dogs. As the size of the human population within the UK has reported to have risen between 2001 and 2006, the populations of cats and dogs are also estimated to have risen over this time period. The 95 per cent CIs of the estimates of the number of owned cats and the number of owned dogs in the UK overlap, so it cannot be said that there are significantly more of either species based on this telephone sample.

Discussion

Anecdotal reports have suggested that the number of pet cats exceeds the number of pet dogs in the UK. However, results from the present study suggest that these reports may be inaccurate, as no evidence was found to support this hypothesis. The proportion of households owning cats and dogs in the present study was greater than the proportion owning cats (19.7 per cent) and dogs (28.8 per cent) reported in a US study by Patronek and others (1997), suggesting that cat and dog ownership may be more popular in the UK than the USA, although any trends of pet ownership during recent years in the USA are unknown.

The populations of cats and dogs that are not owned were not considered in this study. Estimating the number of stray/feral cats in the UK, and elsewhere, is particularly difficult, but knowledge of the size of this population is important as these cats interact with 'owned' cats and may therefore play an important role in the transmission of infectious diseases and the breeding of domestic cats. It is also recognised that there is some overlap between the non-owned and owned cat populations, and that some cats will move from one of these populations to the other. While Patronek and Rowan (1995) developed a dog population model for the USA, they stated that limited availability of data on the non-owned cat population made development of a cat population model difficult. Similarly, little information exists in the UK relating to the non-owned cat population, and estimating the size of this population therefore remains challenging; however, these non-owned populations remain worthy of future research.

TABLE 5: Multivariable logistic regression model of odds ratios (ORs), 95 per cent confidence intervals (CIs) and P values of characteristics associated with cat ownership in randomly selected UK households (2007)

Variable	Cases (%) (n=680)	Controls (%) (n=1844)	Adjusted* OR (95% CI)	P
Sex of respondent				
Male†	203 (29.9)	752 (40.8)	1.00	
Female	477 (70.1)	1092 (59.2)	1.63 (1.35-1.98)	<0.001
Dog(s) in household				
No†	489 (71.9)	1251 (67.8)	1.00	
Yes	191 (28.1)	593 (32.2)	0.62 (0.50-0.78)	<0.001
Children aged 11-15 years in household				
No†	560 (82.4)	1599 (86.7)	1.00	
Yes	120 (17.6)	245 (13.3)	1.04 (0.75-1.44)	0.82
Garden				
No†	16 (2.4)	158 (8.6)	1.00	
Yes	664 (97.6)	1686 (91.4)	3.66 (2.15-6.21)	<0.001
Location of household				
Urban†	183 (26.9)	612 (33.2)	1.00	
Semi-urban or rural	497 (73.1)	1232 (66.8)	1.30 (1.06-1.58)	0.01
Highest level of qualification obtained by a household member				
A level or less†	359 (52.8)	1130 (61.3)	1.00	
Degree or higher	321 (47.2)	714 (38.7)	1.36 (1.13-1.63)	0.001
Age of respondent				
≤64 years†	537 (79.0)	1347 (73.0)	1.00	
≥65 years	143 (21.0)	497 (27.0)	0.78 (0.62-0.97)	0.03
Interaction				
Dog(s) in household x children aged 11-15 years in household			1.96 (1.19-3.24)	0.008

* Adjustment is for all variables shown
† Reference category

Characteristics of cat-owning and dog-owning households

UK households that owned one or more dogs were significantly less likely than non-dog-owning households to own one or more cats (OR=0.62), and a similar relationship was found for a decreased likelihood of dog ownership in cat-owning households (OR=0.69). These findings may reflect differences in householders' preferences for the two species, or concerns about inter-species aggression. In addition, a significant interaction was also found to exist between dog ownership and the presence of children aged 11 to 15 years in the household. Dog-owning households that also included children aged 11 to 15 years were nearly twice as likely to own a cat as households without either dogs or children aged 11 to 15 years. Therefore, the presence of 11- to 15-year-old children was associated with an increased likelihood of the household owning a cat if a dog was also present in the household, perhaps resulting from children and/or parents having the desire and time required for the responsibilities associated with pet ownership.

As the number of people within a household increased, the likelihood of dog ownership increased (P<0.001); however, households with children aged 10 years or younger were nearly half as likely as households without children in this age group to own one or more dogs. These results might reflect the amount of time involved in exercising a dog and that this commitment is more easily fulfilled if there are more people within the household to share dog-walking duties and less easily fulfilled if young children are present in the household. Similarly, Westgarth and others (2007) reported that households with five or more occupants and families without children aged five years or younger were more likely to own a dog than households with fewer occupants and families with children aged five years or younger, respectively. These findings contradict the widely held belief that many families acquire a dog for the purposes of educating their children about pet ownership, at least at such a young age. In contrast, no evidence was found for a significant association between household size and cat ownership.

As anticipated, cat-owning households and dog-owning households were both significantly more likely to have a garden than households without cats or dogs, reflecting householders' desire to provide outside access for both cats and dogs. Analysis of the location of the household (categorised as urban, semi-urban or rural) revealed a significant association between this variable and cat or dog ownership; however, the precise nature of this association varied according to the two species, as indicated by the way in which categories were combined to provide the best model fit. Cats were more likely to be owned by households situated in semi-urban or rural environments, perhaps reflecting a perception that cats are at an increased risk of road accidents in urban areas. Whereas dogs were more likely to be owned by households in a rural environment, probably reflecting the householders' awareness of the need for space to exercise a dog.

The highest level of qualification achieved by a household member was significantly associated with cat ownership and dog ownership. Households containing one or more members who had achieved a university degree were 1.36 times more likely to own a cat than other households. The reason for this association is not clear, but is unlikely to be related to household income as this variable was not shown to be significant when included in the multivariable model (P=0.75). Similarly, two studies conducted in the USA that investigated associations between the presence of household allergens, including cat allergens, and socioeconomic factors concluded that cat allergens were more likely to be present in households where the mother had a higher level of education (Leaderer and others 2002) and in areas with low levels of poverty (Kitch and others 2000) than in households where the mother had a lower level of education or in areas with high levels of poverty, respectively. Thus indirect support exists for the suggestion that socioeconomic factors are associated with cat ownership.

In contrast, households with a higher level of academic qualification (degree level) were significantly less likely to own a dog than households whose highest level of qualification was below degree level. The reason for this association is unclear; however, it could be related to occupations requiring higher qualifications being associated with longer working hours and therefore less time available for care of a dog.

Factors related to the questionnaire respondent were included in the analysis, although it was recognised that these related to the respondent rather than to the household composition. However, it was considered that the age of the respondent would frequently reflect the age of the senior household occupants who are responsible for decisions involving pet ownership, and the age and sex of the respondent are also informative in single-person households. Female respondents were more likely to report that their household owned a

TABLE 6: Multivariable logistic regression model of odds ratios (ORs), 95 per cent confidence intervals (CIs) and P values of characteristics associated with dog ownership in randomly selected UK households (2007)

Variable	Cases (%) (n=784)	Controls (%) (n=1738)	Adjusted* OR (95% CI)	P
Gender of respondent				
Male†	262 (33.4)	693 (39.9)	1.00	
Female	522 (66.6)	1045 (60.1)	1.30 (1.08-1.57)	0.005
Cat(s) in household				
No†	593 (75.6)	1249 (71.9)	1.00	
Yes	191 (24.4)	489 (28.1)	0.69 (0.56-0.84)	<0.001
Children aged ≤10 years in household				
No†	637 (79.3)	1459 (83.9)	1.00	
Yes	147 (20.7)	279 (16.1)	0.58 (0.44-0.76)	<0.001
Number of people in household				
1†	129 (16.5)	515 (29.6)	1.00	
2	262 (33.4)	637 (36.7)	1.56 (1.22-2.00)	
3	133 (17.0)	255 (14.7)	2.11 (1.55-2.89)	
4	158 (20.2)	234 (13.5)	2.86 (2.07-3.97)	
≥5	102 (13.0)	97 (5.6)	4.64 (3.13-6.87)	<0.001
Garden				
No†	26 (3.3)	148 (8.5)	1.00	
Yes	758 (96.7)	1590 (91.5)	2.43 (1.56-3.78)	<0.001
Location of household				
Urban or semi-urban†	519 (26.0)	1312 (75.5)	1.00	
Rural	265 (74.0)	426 (24.5)	1.73 (1.43-2.10)	<0.001
Highest level of qualification obtained by a household member				
A level or less†	483 (61.6)	1005 (57.8)	1.00	
Degree or higher	301 (38.4)	733 (42.2)	0.70 (0.58-0.84)	<0.001
Age of respondent				
≤54 years†	499 (63.6)	897 (51.6)	1.00	
≥55 years	285 (36.4)	841 (48.4)	0.67 (0.54-0.83)	<0.001

* Adjustment is for all variables shown
† Reference category

cat and/or dog than male respondents. Although the respondents' sex did not provide full details of the gender composition of the household (except in single-person households), this result supports the findings of Westgarth and others (2007), who reported that households including an adult female were 2.2 times more likely to own a dog than other households.

Detailed analysis of the respondents' age revealed that combining age categories differently for the models derived for cat ownership (Table 5) and dog ownership (Table 6) resulted in better fits of the two models than using one categorisation for both models. Respondents aged 64 years or younger were significantly more likely to report that the household had a cat than those aged 65 years or more. The sample of respondents within the older age group included some who lived in nursing homes and were not permitted to own cats, perhaps partly explaining the observed age-related association.

Similarly, dog ownership was more common among younger respondents, although in comparison with the cat-ownership model the cut-off was at the lower age of 55 years. Similarly, although not significant in the multivariable model, Westgarth and others (2007) reported, from a univariable analysis, that households containing people aged 60 years or older were significantly less likely than other households to own a dog. This association may be related to the reduction in physical fitness that tends to accompany ageing, perhaps explaining the reluctance of people aged 55 years or older to commit themselves to the responsibilities of exercising a dog.

Estimated size of the owned cat and dog populations in the UK

Although details of the methodology used by the PFMA to calculate the size of the UK domestic cat and dog population were not reported, the estimates from the present study (and 95 per cent CIs) for the size of the owned cat (10,332,955, 95 per cent CI 9,395,642 to 11,270,269) and dog (10,522,186, 95 per cent CI 9,623,618 to 11,420,755) populations in the UK in 2006 suggest that the PFMA values for the UK of 7.2 million cats and 7.3 million dogs in 2007 may have been underestimated (PFMA 2008). Although CIs were calculated in the present study, additional uncertainty exists in these estimates, as the population size estimates were calculated using human population data from 2006. A weakness of the present study is that the population estimates may have been subject to bias if an association existed between households excluded from the present sample (that is, non-responders and those registered as 'ex-directory' or with the TPS) and the probability of cat or dog ownership. The proportion of households located in London in the study sample was lower than the proportion reported in the 2001 census (Table 7), perhaps reflecting a higher proportion of London households that are ex-directory or TPS-registered than households outside the London region. Although further investigation of any bias was not practical, it is estimated that more than 50 per cent of the population is registered as 'ex-directory' (www.192.com), leading to a potential for selection bias. Further work investigating any association between 'ex-directory' status and the likelihood of owning a cat and/or dog would provide useful information to help refine future population estimates. Despite some potential for selection bias, given the lack of recent reliable UK pet population estimates and the practical problems associated with obtaining a truly random UK sample, the estimates derived in the present study should be useful baseline figures for those involved in forecasting data for cat- and dog-related products, such as food and medicine manufacturers. The present study has provided reliable baseline estimates of the cat and dog populations in the UK using a method that is convenient and easily repeated. It is recommended that the cross-sectional study is repeated in 2011 (the year of the next scheduled UK census), to update the population estimates based on updated census information and to enable pet ownership trends to be monitored.

The present study showed many common factors relating to cat and dog ownership in the UK (for example, presence of a garden and a rural location), but has also identified some notable differences. In particular, if the highest level of qualification achieved by a household member was at degree level or higher, then the household was significantly more likely to own a cat and significantly less likely to own a

TABLE 7: Proportion of households in the study sample, and in the 2001 UK census, categorised according to the number of household occupants

Household location and number of occupants	Proportion of households		Mean number of	
	2001 census data	Study sample	Dogs/household (study sample)	Cats/household (study sample)
London				
1 person	0.043	0.009	0.174	0.087
2 person	0.036	0.013	0.290	0.323
3 person	0.019	0.008	0.200	0.200
4 person	0.015	0.006	0.214	0.000
≥5 person	0.010	0.005	0.250	0.500
Rest of UK				
1 person	0.260	0.253	0.248	0.284
2 person	0.304	0.339	0.409	0.449
3 person	0.137	0.147	0.542	0.558
4 person	0.119	0.147	0.634	0.474
≥5 person	0.058	0.074	0.813	0.582

dog than households containing members with lower levels of qualification. Although 7 per cent of households owned both one or more cats and one or more dogs, ownership of one of these species was associated with a decreased likelihood of also owning the other species of pet. The sizes of the owned cat and dog populations in the UK were estimated as approximately 10.3 million cats and 10.5 million dogs, suggesting that the size of the UK owned cat and dog populations is larger than previously reported by industry figures.

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