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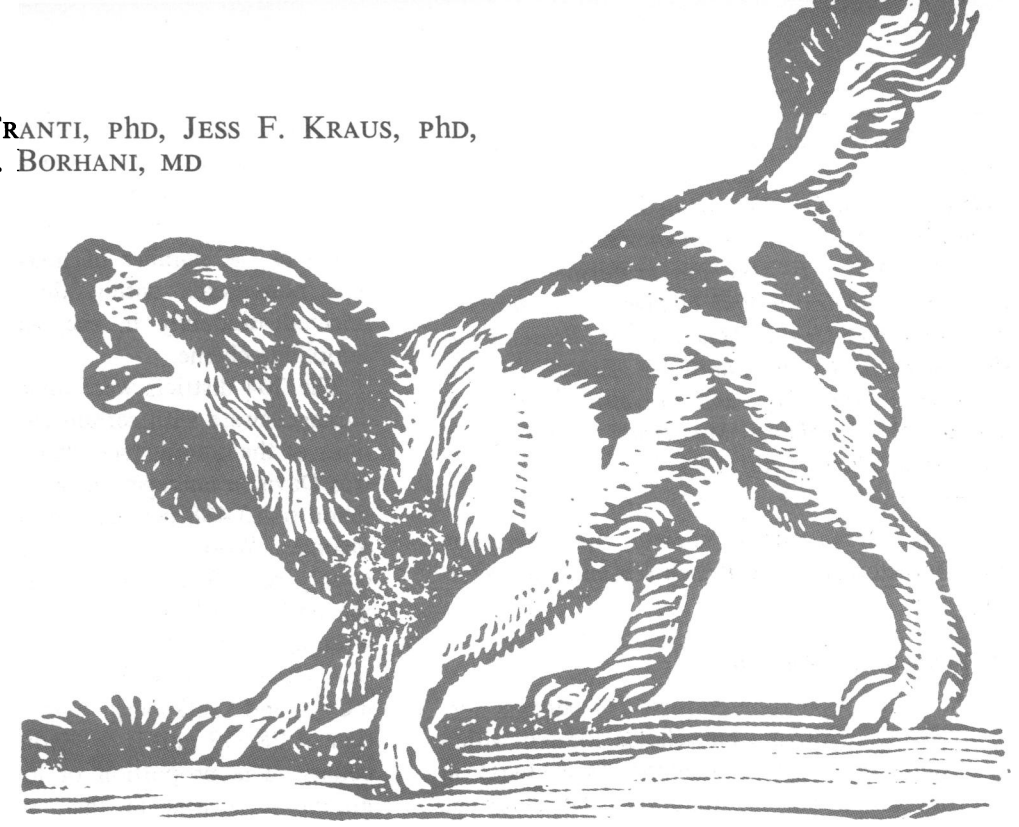

Pet Ownership in a Suburban-Rural Area of California, 1970

Socioeconomic, medical, and demographic aspects

HISTORICALLY, animals and man have shared many diseases and parasites. Dogs and cats, in particular, have been intimately involved and associated with human behavior and health. Zoonosis control is facilitated only through collection and analysis of relevant epidemiologic data on animal populations; a classic example is rabies control which has been successful only because data on the susceptible animals were available. In addition, the relationship between pet ownership and psychosocial aspects of medicine is well known (*1–4*).

Szasz observed, "to understand our present relationship to our pet animals and the intense preoccupation with animals in general that has, in the last decade or two, achieved the proportions of a social phenomenon, we have to study not so much the animals as ourselves . . ."(*5*). Demographic correlates of pet ownership in Alameda County, an urban-suburban area of California, have been reported by other researchers (*6*). For these reasons it was decided at the time of the Yolo County Health Survey (*7,8*) to inquire about pet ownership in connection with other relevant information on health and disease in this area of central California. Such information was collected during the survey, and the data were analyzed to determine demographic, economic, and medical associations with pet ownership in the county. This report describes the findings of

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a portion of the survey; namely, the description and characterization of households and pet ownership.

Methods and Materials

The study population consisted of persons normally living in private households located within the boundaries of Yolo Country (see chart) at the time of the survey, June 1970. A two-stage stratified random sample of these households was selected.

The county had been divided by the California State Department of Finance for its special censuses into 304 enumeration districts (ED). Each ED was a small, relatively homogeneous area. The districts varied in area and in the number of households. Consequently, the primary sampling units were selected with probability proportional to the number of households in the ED. The households within the chosen ED were selected randomly in the second stage of the sampling scheme.

The 304 districts were divided into four strata commensurate with certain characteristics of portions of the county (see chart). The first stratum was Davis, a university-oriented city with a population of 23,488 persons who have relatively high incomes. Woodland, the second stratum, is the county seat, had a population of 20,677, and is the agricultural center of the county. The third stratum, East Yolo, is composed of the unincorporated areas of Bryte, Broderick, West Sacramento, and Clarksburg. East Yolo had a population of 28,777 and is the industrial center of the county. The proportion of low-income minority groups is highest in this stratum. The fourth stratum, with a population of 18,846, is agricultural in character. Hereafter it is referred to as rural county; it comprises the balance of the county and is composed of farms and very small communities.

The 4 strata in the Yolo County Health Survey—1. Davis, 2. Woodland, 3. East Yolo, and 4. rural

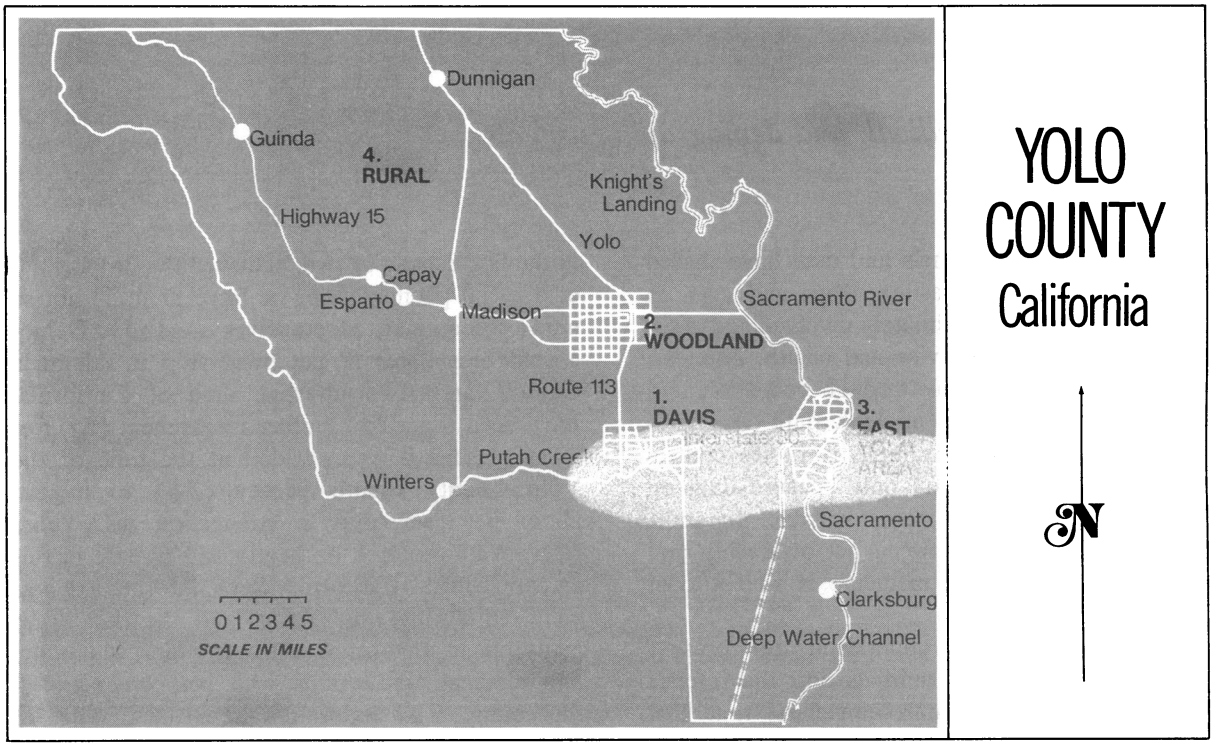

Table 1. Distribution of householders reporting pet ownership, Yolo County Health Survey, California, 1970

Stratum	Pet owner				Total households
	Yes		No		
	Number	Percent	Number	Percent	
Davis	139	61.2	88	38.8	227
Woodland	83	58.9	58	41.1	141
East Yolo	314	66.2	160	33.8	474
Rural	192	77.1	57	22.9	249
Total	728	66.7	363	33.3	1,091

NOTE: $X^2_3 = 19.1 > 16.3$; $P < 0.001$. Not all families answered all questions; therefore, the number of households differs in some tables.

Approximately 4 percent of the households in the county were to be sampled. Allowances were made for an expected vacancy rate of 10 percent and a 10 percent nonresponse to the questionnaire. Enumeration preceded the survey by about 2 months and its purposes were fourfold.

1. To identify, by address, those households to be included in the sample
2. To collect pertinent minimum information identifying households so that basic characteristics of the sample of housing units would be available
3. To inform the household members of the purpose of the health survey
4. To train field interviewers in the peculiarities of surveying rural households and to develop a quick sociodemographic data profile for comparison with data from the 1969 California census and the 1970 U.S. decennial census.

In addition to socioeconomic and demographic data collected by households, information was obtained concerning their individual members. These data included such items as medical complaints, health service expenditures, utilization of medical services, and needs. Prevalence data were obtained on such categorical health issues as family planning and nutrition. Information concerning pet populations included numbers of pets by species and breeds and the animal health problems, if any, within their households. Pets owned by the households surveyed were characterized and described in another report (*9*).

Results and Discussion

A response was obtained from 1,091 of 1,343 occupied housing units contacted during the interview phase of the study, resulting in a response rate of 81.2 percent. The rate of refusal to cooperate was 11.9 percent and, after five followup visits, 6.9 percent of the household occupants could not be reached at home. The response rates varied among strata: 93.8 percent in Davis, 83.4 percent in Woodland, 75.1 percent in East Yolo, and 82.7 percent in the rural area.

Data were collected from the 1,091 households representing a total of 3,638 persons, an average of 3.3 persons per household. This sample included 3.8 percent of all households in the county. Information was provided by the head of the household or the spouse in 98.8 percent of the households interviewed. All but 2.5 percent of the interviews were completed in June, the remainder being completed early in July at the request of the interviewee.

Pet ownership. All animals listed during the interview were considered to be owned by that household. Of the 1,091 households, 67 percent reported owning one or more pets, primarily dogs or cats (table 1). Of the 728 pet owners in the survey 551 householders owned dogs, 330 owned cats, and only 50 had a pet that was neither a dog nor cat. Among pets other than dogs and cats, the most popular were fish (89 households), birds (66), horses (37), rodents (35), rabbits (28), and turtles (20). In the context of this paper, "pet owner" may be inferred to be a dog or cat owner. Residents of the rural stratum reported the highest proportion of pet ownership (77 percent), about 59 to 61 percent of households in Woodland and Davis reported

Table 2. Distribution of pet ownership, by number of rooms in living quarters, Yolo County, Calif., 1970

Stratum and pet owner	Number of rooms							Total households
	1–2	3	4	5	6	7–8	9 or more	
Davis	12	30	48	36	54	38	7	225
No	9	20	21	13	16	7	1	87
Yes	3	10	27	23	38	31	6	138
Woodland		18	28	40	31	17	7	141
No		14	15	15	9	4	1	58
Yes		4	13	25	22	13	6	83
East Yolo	18	57	112	175	82	27	3	474
No	13	35	43	47	15	7		160
Yes	5	22	69	128	67	20	3	314
Rural	18	12	51	74	50	35	9	249
No	16	3	15	9	7	6	1	57
Yes	2	9	36	65	43	29	8	192
Total	48	117	239	325	217	117	26	[1] 1,089
No	38	72	94	84	47	24	3	362
Yes	10	45	145	241	170	93	23	727

[1] No information on 2 households.

pet ownership, and the proportion of households in the East Yolo area owning one or more pets was 66 percent.

In a study of urban-suburban Alameda County, 33 percent of 4,337 households enumerated owned either a dog or cat (*6*). In Yolo County, 62 percent owned a dog or cat. Results of these two studies indicate a significant difference in pet ownership practices in urban-suburban and suburban-rural areas in California. Comparing suburban Alameda County with suburban Yolo County, the reported percentages for dog and cat ownership are about 44 percent for south county, the suburban stratum in the Alameda study, and 55–56 percent for the Woodland and Davis strata in the Yolo study.

Housing. The earlier Alameda County study indicated a relationship between type of dwelling and pet ownership (*6*). Those living in dwellings consisting of only one unit had a higher proportion of pets than those residing in multiple dwelling units. A similar relationship was found in Yolo County. For example, families or persons living in one-family nonfarm dwellings more frequently had pets than those living in 2- to 4-unit family nonfarm dwellings. It should be noted that one-family dwellings, including mobile homes, were most common (84–86 percent) in the Woodland and rural strata and that about 81 percent of residences in East Yolo were one-family dwellings. Davis, as may be expected in a university-oriented city, had the highest proportion of multiple-family dwellings, but nevertheless, 75 percent of the interviewees lived in single-family dwellings. Multifamily farm dwellings and migrant camps, found only in the East Yolo and rural strata, constituted only 3 percent of our sample in these two strata. Only one-third of the households in multifamily farm dwellings and migrant camps reported owning a pet.

Similarly, pet ownership was relatively infrequent among households living in three or fewer rooms (table 2). Among households with four or five rooms, pet owners outnumbered nonowners about 2 to 1, approximating the ratio of ownership in the countywide sample. The highest ratio of pet ownership to nonownership occurred in households having the greatest numbers of rooms. The distributions of household size differed significantly ($P < .01$) among strata, Davis and East Yolo having less than the expected number of households with six or more rooms and the Woodland and rural strata having an excess with six or more rooms. East Yolo also had an excess of four- or five-room houses, and the rural stratum had many fewer than the expected number of houses with three or less rooms. The significant differences observed in this preliminary test prompted further testing within strata. The data for size of living quarters were tested using three categories: three rooms or less, four or five rooms,

and six or more rooms. All four chi-square tests (one for each stratum) indicated that status regarding pet ownership was not independent of number of rooms in living quarters ($P < .01$). Apparently, the greater the number of rooms, the greater likelihood that there also would be a pet in that household. Most multifamily housing such as apartments have fewer rooms or have restrictions on pets and, therefore, may account for the observed association between number of rooms and pet ownership.

A slightly larger proportion of the county's households was in good repair among pet owners than for nonpet owners (82 percent compared with 81 percent). However, among residents of the city of Woodland, the reverse was true; proportionately more nonowners had housing in good repair. As shown in table 3, the quality of housing was lowest in the rural county (62 percent in good repair), improved successively in east Yolo (82 percent) and Woodland (84 percent), and was highest in Davis (90 percent in good repair).

Household size. The median number of persons in households without pets was about two, and in households owning pets it was about three (table 4). Thus, it appeared that, measured by number of persons, as the size of the household increased, the proportion of households with pets also increased. For example, two-thirds of the one-person households did not report owning a pet, whereas only 18 percent of households with five members were without pets. This finding was consistent among all four strata, and it is similar to findings reported for Alameda County (*6*). Average, as compared with median, numbers of persons per household were as follows:

Status	*Average*
Pet owners:	
Davis	3.6
Woodland	3.8
East Yolo	3.6
Rural	3.7
Nonowners:	
Davis	2.3
Woodland	3.1
East Yolo	2.1
Rural	3.0

Table 3. Quality of housing among pet owners and nonowners, Yolo County, Calif., 1970

Stratum and pet owner	Percent in poor repair or dilapidated[1]	Percent in good repair[1]	Total number of households
Davis	10	90	227
No	16	84	88
Yes	6	94	139
Woodland	16	84	141
No	14	86	58
Yes	17	83	83
East Yolo	18	82	474
No	19	81	160
Yes	17	83	314
Rural	38	62	249
No	41	59	57
Yes	36	63	192
Total	18	82	1,091
No	19	81	363
Yes	18	82	728

[1] Percentage of row total.

Table 4. Pet ownership by size of household, Yolo County, Calif., 1970

Stratum and pet owner	Number of persons per household							Total households
	1	2	3	4	5	6–7	8–11	
Davis:								
No	[1] 29	[2] 36	11	20	3	1	.....	88
Yes	8	26	[2] 18	22	14	9	3	139
Woodland:								
No	23	[2] 37	12	7	4	14	4	58
Yes	6	22	18	[2] 23	14	15	1	83
East Yolo:								
No	23	[2] 40	10	11	7	8	1	160
Yes	6	27	[2] 18	22	11	14	2	314
Rural:								
No	25	[2] 33	8	11	8	11	3	57
Yes	8	26	[2] 18	20	13	12	4	192
Total	13	30	[2] 15	19	10	11	2	1,091
No	25	[2] 37	11	12	5	8	2	363
Yes	7	26	[2] 18	22	13	13	3	728

[1] Distribution expressed as percentage of row total. [2] Median class.

Age. Obviously, the size of household and type of dwelling is related to the presence of children. Analysis of these data, by stratum and by age of household occupants, showed that the median age in pet-owning households did not exceed the median age in households without pets, although the respective median ages varied among strata (table 5). Consequently, one can infer that pet ownership in Yolo County is indeed related to the presence of children. In particular, pet-owning households had an "excess" number of persons 5 to 14 years of age when compared with households without pets.

Sex. The distribution of pet ownership by sex of household occupants (table 6) indicated that 51.4 percent of the occupants were male, and 48.6 percent were female in the total sample. However, Davis differed from the other strata in that females outnumbered males. Furthermore, except in Davis, the proportion of males among households without pets exceeded the proportion of males in pet-owning households. Interestingly, an examination of age, sex, and number of occupants (table 4) does not show the stereotype of the little-old-lady pet owner who emerged from Alameda County data (*6*). Perhaps the difference in age distribution of the populations in the two counties or a difference in pet ownership practices in urban Alameda and rural Yolo areas of California is responsible.

Employment. Employment status also appeared to be a characteristic related to pet ownership (table 7). For the entire county sample, about 55 percent of retired and unemployed householders owned pets. However, in Woodland, retired householders tended to not own pets (15 of 22 sampled), but in rural Yolo, retired householders were likely to own pets (31 of 45). In the Alameda County study, among retired and unemployed householders, only about 21 to 33 percent owned pet dogs or cats (*6*). In Yolo County, the majority of householders worked for someone else, that is, were wage- or salary-earners, ranging from about 52 percent in the rural stratum to 70 percent in Davis. Interestingly, the proportion of householders self-employed was greater among pet owners than nonowners in all four strata. In Alameda County (*6*), about 40 percent of employed householders owned pets, but in Yolo County, about 67 percent reported pet ownership. Countywide, the ratio of owners to nonowners was about 4 to 1 (105 to 24) for those self-employed and about 2 to 1 (459 to 214) for householders who worked for others. The proportion of self-employed householders was lowest in Davis and highest in rural Yolo County.

Among broad occupational categories (professional-managerial; clerical-sales-postmen; service occupations; military; farm-fishery-forestry; processing occupations; machine trades, bench-work occupations; structural occupations; and miscellaneous) the number of pet owners exceed nonowners. This finding was consistent for all

Table 5. Distribution of household occupants, by age and pet ownership, Yolo County, Calif., 1970

Stratum and pet owner	Age groups (years) of household occupants									Total occupants
	0–4	5–9	10–14	15–24	25–34	35–44	45–64	65+	Unknown	
Davis	60	58	82	[1] 180	144	63	92	20	1	700
No	20	12	8	58	[1] 49	13	28	13	1	202
Yes	40	46	74	[1] 122	95	50	64	7	0	498
Woodland	47	61	57	[1] 93	52	56	90	37	0	493
No	23	18	14	[1] 36	17	13	31	25	0	177
Yes	24	43	43	[1] 57	35	43	59	12	0	316
East Yolo	144	197	156	[1] 291	202	173	315	92	2	1,572
No	51	52	23	78	[1] 60	32	86	46	0	428
Yes	93	145	133	[1] 213	142	141	229	46	2	1,144
Rural	57	97	94	162	[1] 95	87	202	76	3	873
No	15	11	14	28	[1] 19	17	50	17	1	172
Yes	42	86	80	134	[1] 76	70	152	59	2	701
Total	308	413	389	[1] 726	493	379	699	225	6	3,638
No	109	93	59	200	[1] 145	75	195	101	2	979
Yes	199	320	330	[1] 526	348	304	504	124	4	2,659

[1] Median age class.

strata except Davis, where the number of nonowners exceeded owners for heads of household with service-related occupations. Almost 30 percent of heads of households in Yolo County reported professional or managerial occupations, ranging from a high of about 60 percent in Davis to slightly more than 10 percent in the rural part of the county, and more than 60 percent in this occupational category reported pet ownership. About 10 to 16 percent (by strata) of householders in the county reported clerical and sales occupations. Of these, 65 percent reported pet ownership.

Educational achievement. The lowest median level of educational achievement (some high school education) was among nonowners in the rural stratum. Completion of high school was the median level of achievement among pet owners in the East Yolo and Woodland strata

Table 6. Distribution of household occupants, by sex, and pet ownership, Yolo County, Calif., 1970

Stratum and pet owner	Male		Female		Total occupants
	Number	Percent [1]	Number	Percent	
Davis	339	48.4	361	51.6	700
No	94	46.5	108	53.5	202
Yes	245	49.2	253	50.8	498
Woodland	252	51.1	241	48.9	493
No	99	55.9	78	44.1	177
Yes	153	48.4	163	51.6	316
East Yolo	816	51.9	756	48.1	1,572
No	224	52.3	204	47.7	428
Yes	592	51.7	552	48.3	1,114
Rural	463	53.1	409	46.9	872
No	97	56.4	75	43.6	172
Yes	366	52.3	334	47.7	700
Total	1,870	51.4	1,767	48.6	[2] 3,637
No	514	52.5	465	47.5	979
Yes	1,356	51.0	1,302	49.0	2,658

[1] Percent of row total. [2] No information on 1 person.

Table 7. Distribution of pet ownership by employment status of head of household, Yolo County, Calif., 1970

Stratum and pet owner	Not employed		Retired		Self-employed		Self-employed and work for another		Work for someone else		Total households
	Number	Percent [1]	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Davis	33	15	12	5	14	6	8	4	159	70	226
No	16	18	6	7	4	5	2	2	59	68	87
Yes	17	12	6	4	10	7	6	4	100	72	139
Woodland	10	7	22	16	19	13	3	2	87	62	141
No	3	5	15	26	4	7	1	2	35	60	58
Yes	7	8	7	8	15	18	2	2	56	63	83
East Yolo	54	11	63	13	47	10	12	3	298	63	474
No	27	17	31	19	9	6	5	3	88	55	160
Yes	27	9	32	10	38	12	7	2	210	67	314
Rural	18	7	45	18	49	19	8	3	129	52	249
No	3	5	14	25	7	12	1	2	32	56	57
Yes	15	8	31	16	42	22	7	4	97	51	192
Total	115	11	142	13	129	12	31	3	673	62	[2] 1,090
No	49	14	66	18	24	7	9	2	214	59	362
Yes	66	9	76	10	105	14	22	3	459	63	728

[1] Percent of row total. [2] No information on 1 household.

(table 8). The highest median levels of educational achievement, completion of some college training, were reported for pet owners and nonowners in the Davis stratum.

Income. Median 1969 household income was about $8,000 among pet owners in Yolo County and about $6,000 among nonowners (table 9). In all income intervals except for those households with earnings less than $3,000, the number of households with a pet exceeded the number of households without a pet. Clearly, income level partially influences the ability of a household to afford single-family dwellings and other characteristics which appear to be associated with pet ownership. In Davis, pet owners had a median income of just under $12,000, and nonowners had a median income of about $7,000. In rural Yolo, the median income of pet owners was $7,000 and of nonowners, $4,500.

Table 8. Educational achievement of household occupants 16 years of age and older, by pet ownership of households, Yolo County, Calif., 1970

Stratum and pet owner	Elementary school		High school		Vocational training	College		Graduate school	Unknown (unstated)	Total occupants
	None or did not complete	Completed	Some	Completed		Some	Completed			
Davis:										
No.	1	2	5	30	9	[1] 49	25	36	4	161
Yes	2	6	24	38	11	[1] 95	50	92	8	326
Woodland:										
No.	6	21	19	[1] 26	5	18	9	5	9	118
Yes	5	17	34	[1] 72	9	32	12	6	7	194
East Yolo:										
No.	25	41	46	[1] 87	18	58	6	11	8	300
Yes	30	64	151	[1] 267	41	122	31	16	24	746
Rural:										
No.	33	29	[1] 28	25	3	5	3	2	2	130
Yes	39	74	99	[1] 135	15	63	20	8	18	471
Total	141	254	406	690	111	442	156	176	80	2,446
No.	65	93	98	178	38	130	43	54	23	709
Yes	76	161	308	512	76	312	113	122	57	1,737

[1] Median class, excluding unknown (unstated).

Table 9. Distribution of pet ownership by household income, Yolo County, Calif., 1970

Stratum and pet owner	Household income (dollars)								Total households [1]
	<3,000	3,000–4,999	5,000–7,499	7,500–9,999	10,000–11,999	12,000–14,999	15,000–19,999	>20,000	
Davis	22	21	28	25	32	27	42	20	217
No.	14	14	**16**	8	7	6	13	5	83
Yes	8	7	12	17	**25**	21	29	15	134
Woodland	21	9	24	25	18	12	13	13	135
No.	14	5	**14**	6	5	4	5	2	55
Yes	7	4	10	**19**	**13**	8	8	11	80
East Yolo	67	45	84	68	55	84	26	22	451
No.	32	19	**26**	19	19	17	6	11	149
Yes	35	26	58	**49**	36	67	20	11	302
Rural	40	44	39	20	27	21	17	16	224
No.	16	**13**	6	6	3	5	2	2	53
Yes	24	31	**33**	14	24	16	15	14	171
Total	150	119	175	138	132	144	98	71	1,027
No.	76	51	**62**	39	34	32	26	20	340
Yes	74	68	113	**99**	98	112	72	51	687

[1] 10 households in Davis, 6 in Woodland, 23 in East Yolo, and 25 in the rural stratum did not report income.

NOTE: The median class for the row is set in boldface; in the Woodland stratum the median lies between the 2 classes indicated.

Table 10. Responses to query, "In your opinion, is there an air pollution problem in Yolo County?" by pet ownership of respondent, Yolo County, Calif., 1970

Stratum and pet owner	No		Yes		No opinion	Total households
	Number	Percent [1]	Number	Percent		
Davis	73	33	145	66	1	219
No	42	50	42	50	0	84
Yes	31	23	103	76	1	135
Woodland	55	43	73	57	1	129
No	28	49	28	49	1	57
Yes	27	38	45	62	0	72
East Yolo	158	36	275	63	1	434
No	59	39	91	61	0	150
Yes	99	35	184	65	1	284
Rural	105	46	121	53	2	228
No	28	57	21	43	0	49
Yes	77	43	100	56	2	179
Total	391	39	614	61	5	[2] 1,010
No	157	46	182	54	1	340
Yes	234	35	432	65	4	670

[1] Percent of row total. [2] No response to question from 81 households.

Other aspects. The distribution of place of birth of the head of household indicated clearly that most residents of Yolo County are U.S.-born and that the proportion of U.S.-born is higher among pet owners than among nonowners.

The number of meals served per week is an interesting socioeconomic variable, and may be indicative of "style of living." About 60 percent of all households reported serving 20 to 29 meals per week, slightly more than 30 percent served 10 to 19 meals, and about 10 percent served less than 10 meals per week. Among pet owners, about 65 percent served 20 to 29 meals per week, and 7 percent served less than 10 meals per week. About 55 percent of nonowners served 20 to 29 meals, and 13 percent served less than 10 meals per week.

Pet owners appeared to be more sensitive to air pollution, judging from replies to the query, "In your opinion, is there an air pollution problem in Yolo County?" (table 10). The proportions of affirmative replies differed significantly by strata ($P < .02$), but only in the Davis stratum did the proportion of affirmative replies among pet owners differ significantly ($P < .01$) from replies among nonowners. Within each of the four strata, the proportion of "yes" replies was higher among pet owners than among nonowners and, overall, the proportions of affirmative replies ranged from 43 percent among nonowners in the rural stratum to 76 percent among owners in Davis.

Pet ownership, per se, did not seem to be related to the "pet problem," because 23 to 24 percent of owners and nonowners alike reported illness (mainly allergies and bites) or discomfort (fear of attack, annoyance at barking dogs or yowling cats, and annoyance at feces litter) due to unleashed pets. Interestingly, there were differences in sensitivity among householders in the different strata: 16 to 18 percent in the rural stratum, 23 percent in East Yolo, 21 to 24 percent in Woodland, and 27 to 30 percent in Davis reported illness or discomfort due to stray or straying pets (table 11).

Medical services. Reported use of medical services by pet owners and nonowners differed widely among strata (table 12). In Davis, 40 percent of pet owners and 29 percent of nonowners reported using only a private ("family doctor") physician, but in the rural stratum, 58 percent of nonowners and 46 percent of pet owners used a family physician. In Woodland and East Yolo, both pet owners and nonowners used a family physician, but the percentages were about 52 percent for Woodland and 67 percent for East Yolo. Except in Davis, medical services were sought exclusively in a public clinic more frequently among nonowners than among pet owners. In Woodland and the rural part of the county, about one-sixth of nonowners sought medical services in a public clinic. This segment

Table 11. Sensitivity to the "pet problem", Yolo County, Calif., 1970

Stratum and pet owner	None		Illness [1]	Discomfort [2]		No reply	Total households
	Number	Percent		Number	Percent		
Davis:							
No	59	68	2	26	30	0	87
Yes	100	72	1	37	27	1	139
Woodland:							
No	45	78	1	12	21	0	58
Yes	61	73	1	20	24	1	83
East Yolo:							
No	122	76	1	37	23	0	160
Yes	238	76	3	70	22	4	315
Rural:							
No	48	84	0	9	16	0	57
Yes	157	82	1	34	18	0	192
Total	830	76	10	245	22	6	1,091
No	274	76	4	84	23	0	362
Yes	556	76	6	161	22	6	729

[1] Bites, allergies.

[2] Fear of attack, annoyance at barking dogs or yowling cats, annoyance at feces litter.

Table 12. Pet ownership by medical services normally used (in percentages), Yolo County, Calif., 1970

Stratum and pet owner	Private or family physician *a*	Private clinic *b*	*a*+*b*	Public clinic *c*	*a*+*c*	*b*+*c*	*a*+*b*+*c*	Other [2] *d*	Number of households
Davis:									
No	[1] 29	18	5	1	4	1	0	41	88
Yes	40	25	4	3	3	3	1	20	139
Woodland:									
No	52	18	9	16	6	0	0	0	58
Yes	52	24	5	7	5	2	2	3	83
East Yolo:									
No	68	11	1	6	4	1	0	9	160
Yes	67	11	3	4	4	0	0	11	314
Rural:									
No	58	4	8	17	4	0	0	8	57
Yes	46	23	6	12	5	1	1	7	192
Total	52	18	4	7	4	1	<1	13	1,091
No	51	15	5	8	5	1	0	16	363
Yes	53	19	4	6	4	1	1	11	728

[1] Distribution expressed as percentage of row total.

[2] Includes columns *a* + *d*, *b* + *d*, and other combinations of *a,b,c,* and *d*.

of the population may be largely field laborers and migrant farmworkers.

Family planning. Ninety-one percent of the pet owners favored family planning compared with 83 percent of the householders without pets. However, this difference is due mainly to the comparatively low proportion (61 percent) of nonowners in the rural stratum who favored family planning (table 13). "Ideal family size" did not differ by pet ownership. Owners and nonowners alike reported 2.7 children as the average number of children desired (table 14). Rural householders differed slightly from the other strata in number of children in the ideal family.

Conclusions

The results of the Yolo County survey indicate that several discernable differences exist between households with pets and those without pets.

Economically, income among pet owners is higher than among nonowners. Gainful employment also tends to imply pet ownership in Yolo County. Sociologically, rural residence indicates a greater likelihood to own a pet than does either suburban or urban residence. The presence of children in a household also increases the likelihood that pets will be part of that household. Demographically, the sex of household members does not appear to be related to pet ownership in that household (in Yolo County), but type of housing is related.

Pet ownership appears to be related more closely to economic factors than to purely medical factors, at least as measured by use of medical services. Levinson (*1–4*) has already described the utility of pets among patients who have sought medical aid for psychosocial problems, among the aged, and among children and adolescents in residential schools. The psychiatric preventive potential of pets within family units seems not to have been studied; perhaps it should be examined. General psychosocial aspects of pet ownership certainly deserve further study.

Table 13. Responses to query, "Do you believe in family planning?" by pet ownership of respondent, Yolo County, Calif., 1970

Stratum and pet owner	No		Yes		No opinion		Total households
	Number	Percent	Number	Percent	Number	Percent	
Davis:							
No	4	5	81	93	2	2	87
Yes	3	2	128	92	8	6	139
Woodland:							
No	3	5	52	90	3	5	58
Yes	4	5	78	94	1	1	83
East Yolo:							
No	14	9	134	84	12	7	160
Yes	21	7	284	90	10	3	315
Rural:							
No	12	21	35	61	10	18	57
Yes	10	5	173	90	9	5	192
Total	71	6.5	965	88.5	55	5.0	1,091
No	33	9.1	302	83.4	27	7.5	362
Yes	38	5.2	663	90.9	28	3.8	729

Table 14. Number of children in the ideal family, by pet ownership of respondent, Yolo County, Calif., 1970

Stratum and pet owner	0	1	2	3	4	5	6 or more	No answer	Total
Davis:									
No	2	4	[1] **50**	16	4	1	.....	10	87
Yes	4	6	**74**	23	7	2	.....	23	139
Woodland:									
No	1	.....	**25**	**13**	6	4	3	6	58
Yes	1	.....	36	**25**	10	3	.....	8	83
East Yolo:									
No	1	3	**67**	39	24	1	5	20	160
Yes	4	3	**136**	79	47	3	2	41	315
Rural:									
No	1	.....	13	6	**16**	3	4	14	57
Yes	2	2	61	**57**	34	5	5	26	192
Total	16	18	462	258	148	22	19	148	1,091
No	5	7	**155**	74	50	9	12	50	362
Yes	11	11	**307**	184	98	13	7	98	729

[1] The boldface number in each line is the median; in the Woodland stratum the median lies between the two boldface numbers.

As noted by other authors, the social phenomenon of pet ownership deserves further study. That pet ownership is indeed a social phenomenon is exemplified by the fact that pet ownership in Alameda County occurred in about one-third of the households in 1965, but had increased to about one-half of the households in 1970 (personal communication from R. Schneider, Alameda-Contra Costa Animal Neoplasm Registry, 1974). It is surprising that the U.S. Bureau of the Census has not routinely collected data on pet ownership. Such data, collected regularly on at least a sample of the population, would do much to characterize this social phenomenon and answer questions which have been raised by the present and other studies.

The "pet problem" alluded to earlier is, of course, a series of problems, including annoyance at barking and feces litter, fear of attack by straying pets, and illness (zoonotic diseases, bites, and allergies). Furthermore, the pet problem is not unique to urban or suburban areas; rural pet problems include economic losses suffered by sheep and cattle owners whose animals are destroyed by roving packs of dogs. Although solution of the pet problem per se was not a central point of the Yolo County survey, the survey results suggest the problem is not unsolvable. Since pet owners tend to be at least as well educated, have higher incomes, and are more sensitive to environmental problems than nonowners, increased awareness of the various pet problems by pet owners and nonowners alike should do much to alleviate those problems.

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FRANTI, CHARLES E. (University of California School of Veterinary Medicine, Davis), KRAUS, JESS F., and BORHANI, NEMAT O.: *Pet ownership in a suburban-rural area of California, 1970. Socioeconomic, demographic, and medical aspects. Public Health Reports, Vol. 89, September–October 1974, pp. 473-484.*

Socioeconomic, demographic, and medical aspects of pet ownership were studied in a suburban-rural area, Yolo County, Calif. The study area was divided into four strata; one was strictly rural, and the others were suburban or semi-urban. A two-stage stratified random sample of households was selected. Data were collected from 1,091 households (3,638 persons) or 3.8 percent of the county's households.

Pet owners (67 percent of the households) were found to have higher average incomes than nonowners, were likely to live in larger households or apartments, to belong to larger households, and were likely to think there was an air pollution problem in Yolo County. Pet ownership also appeared to be related to the presence of children 5–14 years of age in the household. Self-employed persons were more likely to own pets than those who worked for others, but pet ownership did not appear to be related to educational achievement or sex of the adult members of the household.

Pet owners were more likely to use private physicians or private clinics for medical care than were householders without pets. Reported number of children in the ideal family was about 2.7 for nonowners as well as owners. About 83 percent of nonowners and 91 percent of pet owners favored family planning, but the percentages varied widely by strata. Demographic and economic characteristics are compared with results from a study of an urban-suburban area, Alameda County, Calif.