Economics and Business Letters
12(1), 75-84, 2023

The labour market trade-offs of pet ownership

Robbie Maris • Michael P. Cameron*

University of Waikato, New Zealand

Received: 1 April 2022
Revised: 21 May 2022
Accepted: 7 July 2022

Abstract

Pets are an important part of many peoples' lives, and provide mental, physical and emotional benefits. However, the costs of pet ownership have received little attention. We investigate the association between pet ownership and wage income using data from the 2018 General Social Survey. We hypothesise that pet ownership may negatively influence income by lowering labour mobility and positively influence income by garnering valuable psychosocial attributes. We analyse interactions between pet ownership and education, pet ownership and housing tenure, and pet ownership and race to further investigate the potential labour mobility channel. Overall, we find that pet ownership decreases wage income and that these negative effects are larger for groups where mobility effects are likely higher.

Keywords: pet ownership; labour mobility; Mincer wage regression
JEL Classification Codes: J39, J69

1. Introduction

Pets are a fundamental part of many people's lives. From cats and dogs to fish or horses, humans have domesticated and built relationships with a plethora of species. In the United States of America, 60% of people own a pet, with dogs being the most common pet (Applebaum et al., 2020). The bond between a pet and its owner is powerful and unique, and pet owners often form strong emotional connections with their pets (Sharkin & Knox, 2003). These connections provide important psychosocial support, and pet ownership is consequently linked with improved mental and physical wellbeing and higher levels of life satisfaction and experiential wellbeing (Bao & Schreer, 2016; Jennings, 1997; Kalenkoski & Korankye, 2022; McNicholas et al., 2005; Serpell, 1991). The benefits of pet ownership have been extensively researched, particularly for vulnerable and at-risk people (Anderson et al., 1992; Jennings, 1997; Thompson et al., 2014). However, studies rarely consider the potential socioeconomic trade-offs associated with pet ownership. What do owners give up for their pets?

In this paper, we investigate the relationship between pet ownership and wage income. We hypothesise that there are two primary channels through which pet ownership may affect wage

* Corresponding author. E-mail: mcam@waikato.ac.nz.

Citation: Maris, R. and Cameron, M. P. (2023) The labour market trade-offs of pet ownership, *Economics and Business Letters*, 12(1), 75-84.

DOI: 10.17811/ebl.12.1.2023.75-84

income. First, as previous research suggests, owning a pet develops desirable psychosocial attributes (responsibility, social skills, compassion) that may have a positive payoff in the labour market (Bao & Schreer, 2016). Second, owning a pet may decrease a worker's mobility, which limits their access to higher-income employment opportunities and results in a negative payoff in the labour market. Similar to having children (Pilar de Luis Carnicer et al., 2004), owning a pet may decrease the mobility of a worker and their ability to pursue job opportunities in new areas. Renters with pets may find it more difficult to move because landlords often impose restrictions on pet ownership (Power, 2016). Moreover, the act of relocating a pet incurs significant financial costs and there may be practical barriers to relocation (Global Pet Relocation, 2021). Search models of the labour market recognise the importance of matching a worker to a job vacancy (Rogerson et al., 2005). If a worker is less mobile, they have less bargaining power in negotiating wages with potential employers (and *ceteris paribus*, should receive a lower wage).

However, disentangling negative "mobility" and positive "psychosocial" effects is difficult. It remains unclear whether pet owners will have lower incomes than equivalent non-pet owners as that will depend on the relative magnitude of the mobility and psychosocial effects. Nontheless, we expect the balance between mobility and psychosocial effects to vary by demographics and socioeconomic characteristics. For example, renters are likely to face greater mobility restrictions from pet ownership than homeowners (Power, 2016). Additionally, more educated workers likely have a higher average baseline level of psychosocial attributes, so the marginal psychosocial effect of pet ownership may be smaller.

In this first (to our knowledge) study of the relationship between pet ownership and wage income, we examine the cross-sectional correlation between pet ownersip and wage income. Specifically, we add a measure of pet ownership in a standard Mincer wage regression, using data from the US General Social Survey (GSS). We also consider interactions between pet ownership and other key explanatory variables to further explore this relationship. The interactions allow us to investigate how the association between pet ownership and income changes when we expect the proposed mobility or psychosocial effects to be larger.

2. Methods

We employ a standard Mincer wage regression (Mincer, 1958), where the dependent variable is the log of real wage income ($USD, base year = 1986). Our key independent variable of interest is a dummy variable for pet ownership (extensive margin). We also separately model number of pets as the independent variable (intensive margin), which is highly skewed to the right and right-censored at twenty. We further winsorise this variable at the 95th percentile to prevent any leveraging bias caused by a small number of extreme values. We include as control variables labour market experience (age minus twenty years) and its square, gender, race, and education (completed school years), as well as the number of children, marital status, mental health, housing tenure, and regional dummy variables. We also use probability sampling weights to ensure the data are representative of U.S. adults, and report robust standard errors to account for heteroskedasticity. Our initial econometric specification is as follows:ç

$$\ln(real\ income)_i = \beta_0 + \beta_1 Pets_i + \beta_2 Educ_i + \beta_3 Exp_i + \beta_4 {Exp_i}^2 + \boldsymbol{\gamma Z_i} + \varepsilon_i \qquad (1)$$

where $Pets_i$ is the binary pet ownership variable *or* the number of pets individual i owns, $Educ_i$ is the number of completed school years for individual i, Exp_i is labour market experience (age minus twenty years) for individual i, $\boldsymbol{Z_i}$ is a vector of control variables, and ε_i is an idiosyncratic error term.

We then consider a number of supplementary models with interactions between pet ownership and: (1) education; (2) housing tenure (owning or renting, and other); and (3) race ("white", "black", or "other"). Extant literature suggests that labour mobility, the job vacancy rate and

labour market matching are fundamentally different between high-skilled and low-skilled workers (Ghayad & Dickens, 2012; Holzer, 1994). Moreover, higher education may increase the baseline level of desirable social attributes. Thus, we hypothesise that pets may differentially affect the income of high-skilled and low-skilled workers (as the mobility and psychosocial effects likely differ). Labour mobility may be significantly reduced for people who do not own their home and have pets. The Oswald hypothesis suggests that homeowners are less mobile than renters (Cochrane & Poot, 2020). In contrast, we suspect that renters' mobility may be reduced with pet ownership due to landlord imposed restrictions on pets (Power, 2016). Thus, we hypothesise that pet ownership may have a greater negative effect on renters. Finally, African Americans face well-documented discrimination in housing markets which, when coupled with pet ownership, may adversely impact rental and accomodation opportunities (Fischer & Massey, 2004; Ondrich et al., 1999). Moreover, several studies show that geographical mobility varies by race and ethnicity (Carlsson & Eriksson, 2014; Ondrich et al., 1999; South & Deane, 1993). Hence, we expect the negative mobility channel to be larger for African Americans.

3. Data

We use data from the 2018 wave of the U.S. General Social Survey (GSS). The GSS has been widely used across the social sciences (for example, see Burt 1984; Blocker and Eckberg 1997). The GSS includes unique modules in different years of the survey and often employs a split design, whereby randomly selected groups of respondents see different modules (NORC, 2019). In the 2018 round, the GSS included a module with questions pertaining to pet ownership. Thus it is the best available cross-sectional data on pet ownership in the U.S. (Applebaum, Peek, and Zsembik, 2020). The final sample size for the GSS in 2018 was 2,348 (however, only 1,147 respondents answered the pet ownership module). Moreover, due to the split-design of the GSS, a limited number of respondents saw questions on the number of hours worked in a week (N = 1381) and housing tenure (N = 1552). The final sample size of respondents who were working and saw the pet ownership questions is 661.

4. Results

We present summary statistics for the untransformed dependent variable (real income), independent variables (pet owenership and number of pets) and control variables in Table 1.

We present summary statistics for the full sample, the model sample and the sub-sample of respondents who completed the housing tenure questions. In our sample, 61% of respondents owned a pet and the average number of pets was 1.7, and real income is positively skewed, with an average of 27,076 USD (1986 dollars) which is equivalent to 62,065 USD (in 2018 dollars). Upon examining each set of summary statistics, there are no obvious biases in the sub-samples.

We report our main OLS results on the extensive margin in Table 2 and the results for the number of pets variable in Table 3. The first columns in both tables show the results for the basic model, the second columns include the education interaction, the third columns include the housing tenure interaction, and the final columns reports results for the race interaction model. In the basic model, the coefficients on pet ownership and the number of pets in a household are negative but statistically insignificant after controlling for other covariates. We expect this arises because of the competing mobility and psychosocial channels.

When we include an interaction between education and pet ownership, we can see that the coefficient on pet ownership (with no education) is positive and the interaction term is negative (although, not statistically significant). In our intensive margin model (Table 3), the coefficient on the interaction term is negative and significant at the 5% significance level and reveals that as education (school years) increases, the coefficient between pet ownership and income

decreases. We depict this varying relationship in Figure 1, which shows the coefficient between the number of pets owned and income for varying education levels (with 90% confidence intervals and covariates at their mean). At low levels of education, pet ownership has a positive and statistically significant association with real income, while at high levels of education, pet ownership is significantly negatively correlated with real income.

We propose possible interpretations for these results in line with the literature. First, there may be fewer mobility issues and mobility-related opportunities for income gain for low-skilled workers. Studies show that high-skilled workers are more geographically mobile and move more often for work (Amior, 2015; Machin et al., 2012; Malamud & Wozniak, 2012). Amior (2015) confirm that a majority of high-income workers cite moving for "job reasons". Moretti (2011) argues that this is because there are smaller geographical wage differentials for low-skilled workers (relative to high-skilled workers) and thus there is less financial motivation for low-skilled workers to relocate. Therefore, if pet ownership restricts mobility, the effect on work opportunities may be smaller for low-skilled workers (Amior, 2015).

Second, at low levels of completed education, owning a pet may garner social attributes (such as compassion, improved mental health, better social skills) that are desirable to employers (and that more educated people would gain through their time at school) (Bao and Schreer 2016; Bradshaw 1989; Jennings 1997; McNicholas et al. 2005). Therefore, the psychosocial effect is likely greater than the mobility effect and real income may be higher for uneducated (zero school years) individuals who have pets than those who don't. Future research should explore these mechanisms in greater detail and may elucidate why our results do not hold significance at the extensive margin (Table 2).

Table 1. Summary statistics for variables of interest

	Full sample (N = 578)		Model sample (N = 557)		Tenure sample (N = 198)	
Variable	**Mean**	**Std Dev**	**Mean**	**Std Dev**	**Mean**	**Std Dev**
Real Income ($, 1986 USD)	27,076	29,123	26,968	29,073	29,873	31,435
Number of pets	1.73	2.76	1.73	2.79	1.70	2.70
Has any pets	61.07%	48.80%	61.04%	48.81%	60.10%	49.09%
Education (school years)	14.25	2.78	14.25	2.74	14.35	2.74
Experience	24.58	13.55	24.47	13.64	28.56	13.93
Number of children	1.72	1.61	1.68	1.58	1.82	1.59
Hours worked a week	42.50	14.82	42.52	14.85	42.98	16.16
Male	53.98%	49.88%	53.86%	49.90%	58.08%	49.47%
Female	46.02%	49.88%	46.14%	49.90%	41.92%	49.47%
Black	16.61%	37.25%	16.52%	37.17%	18.18%	38.67%
White	71.63%	45.12%	71.81%	45.03%	70.20%	45.85%
Other race	11.76%	32.25%	11.67%	32.13%	11.62%	32.12%
Own home	65.50%	47.66%	64.55%	47.96%	65.15%	47.77%
Rent home	34.50%	47.66%	35.45%	47.96%	34.85%	47.77%
Married	46.02%	49.88%	45.42%	49.83%	48.99%	50.12%
Widowed	2.77%	16.42%	2.69%	16.20%	4.55%	20.88%
Divorced	18.69%	39.01%	19.03%	39.29%	18.69%	39.08%
Separated	4.15%	19.97%	4.13%	19.91%	3.03%	17.19%
Never married	28.37%	45.12%	28.73%	45.29%	24.75%	43.26%
Trailer	4.84%	21.49%	4.49%	20.72%	5.05%	21.95%
One family house	67.65%	46.82%	67.86%	46.74%	67.68%	46.89%
Unit	5.02%	21.85%	5.21%	22.24%	4.04%	19.74%
Three-four family house	1.04%	10.14%	1.08%	10.33%	2.02%	14.10%
Row house	5.36%	22.55%	5.57%	22.95%	4.04%	19.74%
Apartment	16.09%	36.78%	15.80%	36.51%	17.17%	37.81%

Note: For brevity, we do not include summary statistics for the aggregated regional dummy variables.

Further considering the role of mobility, when we include controls and interactions for housing tenure (owning or renting), the correlation between pet ownership and real income is insignificant for home-owners, but negative and significant for renters (in both models). For those renting, owning a pet is associated with 41.8% lower real income, ceteris paribus. When we consider the intensive margin (Table 3), owning an additional pet is associated with 15.4% lower real income on average. This association is insignificant at conventional levels (p-value = 0.13), but we suspect this is driven by the small sample size for the housing tenure models.

Table 2. OLS regression results for regressions of real income on pet ownership

Ln (real income, 1986 USD)	**(1)**	**(2)**	**(3)**	**(4)**
Owns a pet	-0.0367	0.320	0.132	0.0721
	(0.0972)	(0.504)	(0.202)	(0.117)
Education (school years)	0.115***	0.131***	0.0932***	0.116***
	(0.0183)	(0.0237)	(0.0288)	(0.0179)
African American	-0.00119	0.00322	-0.0287	0.197
	(0.122)	(0.123)	(0.191)	(0.152)
Other Race	-0.468***	-0.472***	-0.107	-0.323*
	(0.149)	(0.149)	(0.285)	(0.166)
Female	-0.536***	-0.538***	-0.645***	-0.552***
	(0.0904)	(0.0904)	(0.175)	(0.0893)
Experience	0.0618***	0.0622***	0.0484**	0.0635***
	(0.0149)	(0.0149)	(0.0204)	(0.0147)
Experience^2	-0.00095***	-0.00096***	-0.00066**	-0.00098***
	(0.000273)	(0.000273)	(0.000324)	(0.000271)
Widowed	-0.293	-0.300	-1.063**	-0.285
	(0.357)	(0.356)	(0.440)	(0.361)
Divorced	-0.166	-0.162	0.0906	-0.178
	(0.116)	(0.115)	(0.163)	(0.115)
Separated	-0.0273	-0.0212	0.240	-0.0136
	(0.173)	(0.175)	(0.322)	(0.170)
Never married	-0.580***	-0.582***	-0.585**	-0.568***
	(0.123)	(0.124)	(0.228)	(0.121)
Mental health score	-0.00374	-0.00386	0.00692	-0.00319
	(0.00576)	(0.00575)	(0.00967)	(0.00580)
Number of children	-0.0939***	-0.0941***	-0.145**	-0.0894**
	(0.0361)	(0.0362)	(0.0581)	(0.0360)
Renting			-0.194	
			(0.260)	
*Owns a pet*Education*		-0.0246		
		(0.0328)		
*Owns a pet*Renting*			-0.542*	
			(0.310)	
*Owns a pet*African American*				-0.517**
				(0.239)
*Owns a pet*Other race*				-0.240
				(0.274)
Constant	7.897***	7.658***	8.048***	7.789***
	(0.424)	(0.485)	(0.648)	(0.431)
Regional Controls	YES	YES	YES	YES
Dwelling Type Controls	NO	NO	YES	NO
Observations	575	575	198	575
R-squared	0.345	0.345	0.447	0.350

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 3. OLS regression results for regressions of real income on number of pets

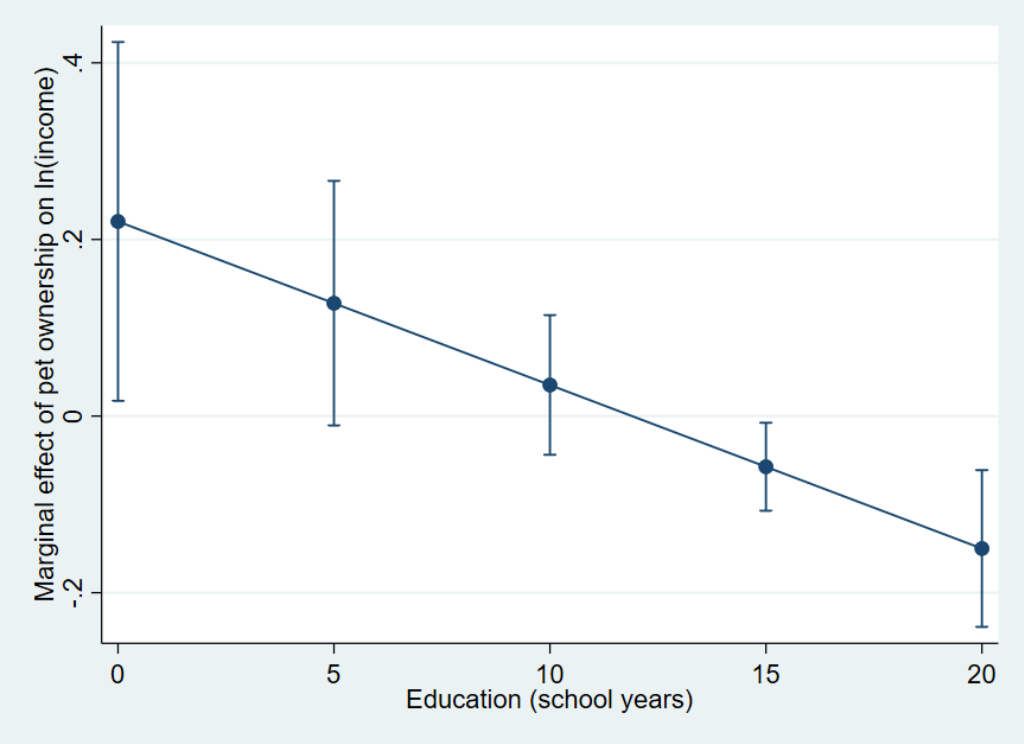
Ln (real income, 1986 USD)	**(1)**	**(2)**	**(3)**	**(4)**
Number of pets	-0.0412	0.220*	0.0173	-0.0225
	(0.0306)	(0.123)	(0.0514)	(0.0329)
Education (school years)	0.112***	0.142***	0.0963***	0.116***
	(0.0182)	(0.0225)	(0.0282)	(0.0183)
African American	-0.0370	-0.0260	-0.0382	0.110
	(0.120)	(0.119)	(0.185)	(0.134)
Other Race	-0.510***	-0.487***	-0.109	-0.489***
	(0.147)	(0.149)	(0.269)	(0.159)
Female	-0.537***	-0.538***	-0.643***	-0.561***
	(0.0892)	(0.0884)	(0.178)	(0.0889)
Experience	0.0609***	0.0630***	0.0477**	0.0615***
	(0.0149)	(0.0147)	(0.0210)	(0.0147)
Experience^2	-0.00094***	-0.00097***	-0.00065*	-0.00095***
	(0.000275)	(0.000271)	(0.000330)	(0.000272)
Widowed	-0.267	-0.292	-1.090**	-0.273
	(0.357)	(0.353)	(0.431)	(0.357)
Divorced	-0.163	-0.178	0.0515	-0.179
	(0.120)	(0.118)	(0.160)	(0.120)
Separated	-0.0186	0.0164	0.360	0.0234
	(0.175)	(0.183)	(0.370)	(0.177)
Never married	-0.587***	-0.580***	-0.582**	-0.595***
	(0.124)	(0.124)	(0.229)	(0.123)
Mental health score	-0.0885**	-0.0867**	-0.147***	-0.0856**
	(0.0348)	(0.0344)	(0.0564)	(0.0355)
Number of children	-0.00310	-0.00319	0.00665	-0.00226
	(0.00569)	(0.00573)	(0.00961)	(0.00574)
Renting			-0.320	
			(0.203)	
*Number of pets*Education*		-0.0185**		
		(0.00822)		
*Number of pets*Renting*			-0.167	
			(0.109)	
*Number of pets*African American*				-0.189*
				(0.0973)
*Owns a pet*Other race*				0.00399
				(0.113)
Constant	8.022***	7.518***	8.110***	7.932***
	(0.413)	(0.453)	(0.675)	(0.418)
Regional Controls	YES	YES	YES	YES
Dwelling Type Controls	NO	NO	YES	NO
Observations	575	575	198	575
R-squared	0.348	0.354	0.446	0.354

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

We suggest that renters (relative to homeowners) face considerably greater mobility restrictions from pet ownership and may have lower incomes as a result (the mobility effect is greater than the psychosocial effect). Many landlords impose restrictions on pet ownership (Graham et al., 2018; Power, 2016). Graham et al. (2018) survey renters with pets and find that they make considerable compromises when looking for rental properties in order to keep their pets. In contrast, the Oswald Hypothesis suggests that homeowners may be generally less mobile than renters (Cochrane & Poot, 2020). However, we don't expect pet ownership to

reduce homeowners' mobility, because they do not face the same restrictions on pet ownership that renters do.

Figure 1. Plot of the marginal effect of pet ownership (number of pets) on the log of real income by education. Marginal effects are computed at the means of all covariates.



In our final model, the coefficients on pet ownership (intensive and extensive margin) are negative and significant for African Americans and insignificant for Whites and people of other races. On average, for African Americans, owning a pet is associated with 40.4% lower real income, ceteris paribus. On average, at the intensive margin (Table 3), owning an additional pet is associated with 17.2% lower income, ceteris paribus. This supports our initial hypothesis that the combination of racial biases and pet ownership may significantly reduce African Americans' labour mobility, resulting in a larger mobility than psychosocial effect and lower subsequent wage income (Fischer & Massey, 2004; Ondrich et al., 1999). We suspect the potential effects may be concentrated in the rental housing market, as noted above. In our smaller sample (those who saw the housing tenure questions), almost twice as many African Americans are renters (58.9%) compared to Whites (32.8%). Therefore, the mobility issues associated with pet ownership may have disproportionate impacts on minority populations.

5. Concluding remarks

Overall, our results provide some initial support for the claim that pet ownership reduces wage income where mobility effects may outweigh psychosocial effects (highly educated workers, renters, and African Americans). However, our analysis has some key limitations. First, we do not generate causal estimates for the relationship between pet ownership and wage income. Pet ownership (and other explanatory control variables) is likely to be endogenous, and there may also be reverse causality, wherein income is a determinant of pet ownership. However, given the dataset and variables available, we could not find a convincing instrumental variable for pet ownership. Future work should attempt to resolve this issue, along with the possibility of omitted variable bias. Moreover, the data on pet ownership is limited to a single cross-section in the GSS, and the range of pet ownership variables is limited. We also cannot determine how

long each individual has owned a pet for. This may be an issue because the impact on labour mobility may differ depending on how long a worker has owned pets. For instance, long-term pet owners may be more reluctant to give up their pets to enable a work-related move. The sample size limitation is most relevant for our analysis of housing tenure and pet ownership. Moreover, differences in pet ownership by gender (Appelbaum et al., 2020) may be a contributor to the gender wage gap. A further issue is that landlords may respond in different ways to pet ownership, including increasing rents, or requiring larger security deposits, which may have greater effects on low-income tenants. Further exploration of these issues, perhaps with a larger-scale bespoke survey, is warranted.

In spite of these limitations, this exercise is a useful first exploration of the correlations between pet ownership and wage income in the US. Our findings improve our understanding of the costs and benefits of pet ownership and the tradeoffs pet owners make for their pets. We show that pet ownership is negatively associated with real income for highly educated individuals, renters, and African Americans. We argue that these correlations may be driven by mobility constraints associated with pet ownership. We also find that pet ownership is positively correlated with real income for uneducated workers and this may suggest that pet ownership garners desirable social attributes that are valuable in the labour market.

The full range of costs and benefits of pet ownership are still being identified. We have contributed to this literature through an examination of the labour market impacts of pet ownership. While pet owners will undoubtedly assert that their pets are worth it, understanding these dynamics could help policy makers improve labour mobility and labour market outcomes for pet owners.

References

Amior, M. (2015). *Why are higher skilled workers more mobile geographically? The role of the job surplus.* CEP Discussion Paper No. 1338. Centre for Economic Performance, LSE. https://cep.lse.ac.uk/_new/publications/abstract.asp?index=4595

Anderson, W. P., Reid, C. M., & Jennings, G. L. (1992). Pet ownership and risk factors for cardiovascular disease. *The Medical Journal of Australia*, *157*(5), 298–301.

Applebaum, J. W., Peek, C. W., & Zsembik, B. A. (2020). Examining U.S. pet ownership using the General Social Survey. *The Social Science Journal*, *0*(0), 1–10. https://doi.org/10.1080/03623319.2020.1728507

Bao, K. J., & Schreer, G. (2016). Pets and Happiness: Examining the Association between Pet Ownership and Wellbeing. *Anthrozoös*, *29*(2), 283–296. https://doi.org/10.1080/08927936.2016.1152721

Blocker, T. J., & Eckberg, D. L. (1997). Gender and Environmentalism: Results from the 1993 General Social Survey. *Social Science Quarterly*, *78*(4), 841–858.

Bradshaw, D. (1989). Higher Education, Personal Qualities and Employment: Teamwork. *Oxford Review of Education*, *15*(1), 55–71.

Burt, R. S. (1984). Network items and the general social survey. *Social Networks*, *6*(4), 293–339. https://doi.org/10.1016/0378-8733(84)90007-8

Carlsson, M., & Eriksson, S. (2014). Discrimination in the rental market for apartments. *Journal of Housing Economics*, *23*, 41–54. https://doi.org/10.1016/j.jhe.2013.11.004

Cochrane, W., & Poot, J. (2020). Did the post-1986 decline in the homeownership rate benefit the New Zealand labour market? A spatial-econometric exploration. *Asia-Pacific Journal of Regional Science*, *4*(1), 261–284. https://doi.org/10.1007/s41685-020-00148-6

Fischer, M. J., & Massey, D. S. (2004). The Ecology of Racial Discrimination. *City & Community*, *3*(3), 221–241. https://doi.org/10.1111/j.1535-6841.2004.00079.x

Ghayad, R., & Dickens, W. T. (2012). What Can We Learn by Disaggregating the Unemployment-Vacancy Relationship? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2285075

Global Pet Relocation. (2021). *Frequently Asked Questions*. https://www.globalpetrelocation.com/faqs-pet-relocation

Graham, T. M., Milaney, K. J., Adams, C. L., & Rock, M. J. (2018). "Pets Negotiable": How Do the Perspectives of Landlords and Property Managers Compare with Those of Younger Tenants with Dogs? *Animals*, *8*(3), 32. https://doi.org/10.3390/ani8030032

Holzer, H. J. (1994). Black Employment Problems: New Evidence, Old Questions. *Journal of Policy Analysis and Management*, *13*(4), 699–722. https://doi.org/10.2307/3325494

Jennings, L. B. (1997). Potential Benefits of Pet Ownership in Health Promotion. *Journal of Holistic Nursing*, *15*(4), 358–372. https://doi.org/10.1177/089801019701500404

Kalenkoski, C. M., & Korankye, T. (2022). Enriching Lives: How Spending Time with Pets is Related to the Experiential Well-Being of Older Americans. *Applied Research in Quality of Life*, 17, 489-510. https://doi.org/10.1007/s11482-020-09908-0

Machin, S., Salvanes, K. G., & Pelkonen, P. (2012). Education and Mobility. *Journal of the European Economic Association*, *10*(2), 417–450. https://doi.org/10.1111/j.1542-4774.2011.01048.x

Malamud, O., & Wozniak, A. (2012). The Impact of College on Migration: Evidence from the Vietnam Generation. *The Journal of Human Resources*, *47*(4), 913–950.

McNicholas, J., Gilbey, A., Rennie, A., Ahmedzai, S., Dono, J.-A., & Ormerod, E. (2005). Pet ownership and human health: A brief review of evidence and issues. *BMJ*, *331*(7527), 1252–1254. https://doi.org/10.1136/bmj.331.7527.1252

Mincer, J. (1958). Investment in Human Capital and Personal Income Distribution. *Journal of Political Economy*, *66*(4), 281–302.

Moretti, E. (2011). Local labor markets. In D. Card & O. Ashenfelter (Eds.), *Handbook of Labor Economics* (Vol. 4B, pp. 1237–1313). Elsevier.

NORC. (2019). *General Social Surveys, 1973-2018: Cumulative codebook*. https://gss.norc.org/documents/codebook/gss_codebook.pdf

Ondrich, J., Stricker, A., & Yinger, J. (1999). Do Landlords Discriminate? The Incidence and Causes of Racial Discrimination in Rental Housing Markets. *Journal of Housing Economics*, *8*(3), 185–204. https://doi.org/10.1006/jhec.1999.0249

Pilar de Luis Carnicer, M., Martínez Sánchez, A., Pérez Pérez, M., & José Vela Jiménez, M. (2004). Analysis of internal and external labour mobility: A model of job-related and non-related factors. *Personnel Review*, *33*(2), 222–240. https://doi.org/10.1108/00483480410518068

Power, A. (2016, August 16). As pet owners suffer rental insecurity, perhaps landlords should think again. *The Conversation*. https://theconversation.com/as-pet-owners-suffer-rental-insecurity-perhaps-landlords-should-think-again-63275

Rogerson, R., Shimer, R., & Wright, R. (2005). Search-Theoretic Models of the Labor Market: A Survey. *Journal of Economic Literature*, *43*(4), 959–988. https://doi.org/10.1257/002205105775362014

Serpell, J. (1991). Beneficial Effects of Pet Ownership on Some Aspects of Human Health and Behaviour. *Journal of the Royal Society of Medicine*, *84*(12), 717–720. https://doi.org/10.1177/014107689108401208

Sharkin, B., & Knox, D. (2003). Pet Loss: Issues and Implications for the Psychologist. *Professional Psychology: Research and Practice*, *34*, 414–421. https://doi.org/10.1037/0735-7028.34.4.414

South, S. J., & Deane, G. D. (1993). Race and Residential Mobility: Individual Determinants and Structural Constraints*. *Social Forces*, *72*(1), 147–167. https://doi.org/10.1093/sf/72.1.147

Thompson, K., Every, D., Rainbird, S., Cornell, V., Smith, B., & Trigg, J. (2014). No Pet or Their Person Left Behind: Increasing the Disaster Resilience of Vulnerable Groups through Animal Attachment, Activities and Networks. *Animals*, *4*(2), 214–240. https://doi.org/10.3390/ani4020214