

1 **Table S1** Generalized variance inflation factors of each explanatory variable

<b>Variables</b>	<b>GVIF</b>	<b>DF</b>	<b>GVIF<sup>1/(2*df)</sup></b>
<b>Model 1</b>			
PAS-M (continuous)	1.133	1	1.065
Age	1.339	1	1.157
Sex	1.154	1	1.074
Education	1.115	1	1.056
Income	1.165	2	1.039
Marital status	1.300	1	1.140
Employment	1.018	1	1.009
Family size	1.156	1	1.075
<b>Model 2</b>			
PAS-M	1.092	1	1.045
Age	1.334	1	1.155
Sex	1.129	1	1.063
Education	1.111	1	1.054
Income	1.168	2	1.040
Marital status	1.276	1	1.130
Employment	1.018	1	1.009
Family size	1.157	1	1.076
<b>Model 3</b>			
PAS-M (continuous)	1.116	1	1.056
Age	1.324	1	1.151
Sex	1.137	1	1.066
Education	1.110	1	1.054
Income	1.170	2	1.040
Marital status	1.280	1	1.132
Employment	1.016	1	1.008
Family size	1.155	1	1.075
<b>Model 4</b>			
PAS-M	1.087	1	1.043
Age	1.328	1	1.152
Sex	1.114	1	1.055
Education	1.111	1	1.054
Income	1.171	2	1.040
Marital status	1.270	1	1.127
Employment	1.017	1	1.008
Family size	1.153	1	1.074

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**Table S2.** Robustness of the association between owner's depression symptoms and the modified Pet Attitude Score (Model 1)

Explanatory variables	Model 1 <sup>1</sup>		Model S1.1 <sup>2</sup>		Model S1.2 <sup>3</sup>	
	OR	95% CI	OR	95% CI	OR	95% CI
PAS-M	0.95	0.94 - 0.96	0.95	0.94 - 0.96	0.95	0.94 - 0.96
Age						
19-29	Ref	-			Ref	-
30-39	1.28	0.85 - 1.95			1.12	0.78 - 1.63
Sex						
male	Ref	-			Ref	-
female	1.37	0.97 - 1.96			1.38	0.98 - 1.96
Education						
high school or less	Ref	-				
university of more	0.95	0.57 - 1.57				
Income						
low tertile	Ref	-				
middle tertile	0.88	0.58 - 1.34				
high tertile	0.73	0.48 - 1.12				
Marital status						
single	Ref	-				
married	0.81	0.56 - 1.18				
Employment						
unemployed	Ref	-				
employed	0.94	0.58 - 1.53				
Family size						
one or two	Ref	-				
three or more	1.22	0.80 - 1.86				
AIC	851.19		842.8		843.39	

*Note:* CESD-10 was used to measure owners' depression symptoms (scores higher than 10 categorized as having depression symptoms), and the modified Pet Attitude Scale (PAS-M) was included as a continuous variable

<sup>1</sup> Model 1: Adjusted for demographic and socioeconomic factors (age, sex, education level, income, marital status, and employment; <sup>2</sup>Model S1.1: Univariate analysis; <sup>3</sup>Model S1.2: Adjust for demographic factors (age and sex)

**Table S3.** Robustness of the association between owner's depression symptom and the modified Pet Attitude Score (Model 2)

Explanatory variables	Model 2 <sup>1</sup>		Model S2.1 <sup>2</sup>		Model S2.2 <sup>3</sup>	
	OR	95% CI	OR	95% CI	OR	95% CI
PAS-M*						
high (>89)	Ref	-	Ref	-	Ref	-
low (≤89)	3.19	2.28 - 4.47	3.15	2.29 - 4.35	3.28	2.36 - 4.58
Age						
19-29	Ref	-			Ref	-
30-39	1.22	0.81 - 1.84			1.09	0.76 - 1.58
Sex						
male	Ref	-			Ref	-
female	1.24	0.88 - 1.75			1.24	0.89 - 1.75
Education						
high school or less	Ref	-				
university of more	0.94	0.57 - 1.54				
Income						
low tertile	Ref	-				
middle tertile	0.85	0.56 - 1.29				
high tertile	0.70	0.46 - 1.07				
Marital status						
single	Ref	-				
married	0.89	0.62 - 1.28				
Employment						
unemployed	Ref	-				
employed	0.93	0.57 - 1.49				
Family size						
one or two	Ref	-				
three or more	1.29	0.85 - 1.97				
AIC	865.28		855.20		857.57	

*Note:* CESD-10 was used to measure owners' depression symptoms (scores higher than 10 categorized as having depression symptoms), and the modified Pet Attitude Scale (PAS-M) was categorized based on the median value, which was 89

<sup>1</sup> Model 2: Adjusted for demographic and socioeconomic factors (age, sex, education level, income, marital status, and employment; <sup>2</sup>Model S2.1: Univariate analysis; <sup>3</sup>Model S2.2: Adjust for demographic factors (age and sex)

**Table S4.** Robustness of the association between owner's depression symptom and the modified Pet Attitude Score (Model 3)

Explanatory variables	Model 3 <sup>1</sup>		Model S3.1 <sup>2</sup>		Model S3.2 <sup>3</sup>	
	$\beta$	95% CI	$\beta$	95% CI	$\beta$	95% CI
PAS-M*	-0.11	-0.15 – -0.08	-0.11	-0.14 – -0.08	-0.12	-0.15 – -0.09
Age						
19-29	Ref	-			Ref	-
30-39	0.41	-0.65 – 1.48			-0.22	-0.17 – 0.74
Sex						
male	Ref	-			Ref	-
female	0.86	-0.03 – 1.75			0.88	-0.01 – 1.78
Education						
high school or less	Ref	-				
university of more	-0.65	-1.93 – 0.64				
Income						
low tertile	Ref	-				
middle tertile	-0.48	-1.55 – 0.59				
high tertile	-1.09	-2.18 – 0.01				
Marital status						
single	Ref	-				
married	-0.86	-1.08 – 0.08				
Employment						
unemployed	Ref	-				
employed	-0.62	-1.86 – 0.63				
Family size						
one or two	Ref	-				
three or more	0.48	-0.62 – 1.57				
AIC	4079.71		4079.44		4078.84	

*Note:* CESD-10 was used to measure owners' depression symptoms and included as a continuous variable. The modified Pet Attitude Scale (PAS-M) was included as a continuous variable

<sup>1</sup> Model 3: Adjusted for demographic and socioeconomic factors (age, sex, education level, income, marital status, and employment; <sup>2</sup>Model S3.1: Univariate analysis; <sup>3</sup>Model S3.2: Adjust for demographic factors (age and sex)

**Table S5.** Robustness of the association between owner's depression symptom and the modified Pet Attitude Score (Model 4)

Explanatory variables	Model 4 <sup>1</sup>		Model S4.1 <sup>2</sup>		Model S4.2 <sup>3</sup>	
	$\beta$	95% CI	$\beta$	95% CI	$\beta$	95% CI
PAS-M*						
high (>89)	Ref	-	Ref	-	Ref	-
low ( $\leq$ 89)	2.67	1.79 – 3.54	2.61	1.77 - 3.46	2.77	1.91 – 3.64
Age						
19-29	Ref	-			Ref	-
30-39	0.30	-0.78 – 1.38			-0.28	-1.25 – 0.69
Sex						
male	Ref	-			Ref	-
female	0.61	-0.28 – 1.50			0.64	-0.26 – 1.53
Education						
high school or less	Ref	-				
university of more	-0.67	-1.97 – 0.63				
Income						
low tertile	Ref	-				
middle tertile	-0.57	-1.65 – 0.51				
high tertile	-1.20	-2.31 – -0.09				
Marital status						
single	Ref	-				
married	-0.68	-1.62 – 0.27				
Employment						
unemployed	Ref	-				
employed	-0.65	-1.91 – 0.61				
Family size						
one or two	Ref	-				
three or more	0.61	-0.49 – 1.72				
AIC	4093.99		4091.36		4092.57	

*Note:* CESD-10 was used to measure owners' depression symptoms and included as a continuous variable. The modified Pet Attitude Scale (PAS-M) was categorized based on the median value, which was 89

<sup>1</sup> Model 4: Adjusted for demographic and socioeconomic factors (age, sex, education level, income, marital status, and employment; <sup>2</sup>Model S4.1: Univariate analysis; <sup>3</sup>Model S4.2: Adjust for demographic factors (age and sex)