Supplementary Materials

Table S1. Usability scores for the seven topical antiparasitics evaluated

Treatment	Number of cats	Dosage	Volume of the solution	Administration	Usability of the container	Total Score	Mean	SD*
A	7	0	0	0	0	0		
	8	0	0	0	0	0	0	0
	9	0	0	0	0	0		
B	16	0	0	0	0	0		
	17	0	0	0	0	0	0	0
	18	0	0	0	0	0		
C	13	0	0	0	0	0		
	14	0	0	0	0	0	0	0
	15	0	0	0	0	0		
D	19	0	0	0	0	0		
	20	0	0	0	0	0	0	0
	21	0	0	0	0	0		
E	10	0	0	0	0	0		
	11	0	0	0	0	0	0	0
	12	0	0	0	0	0		
F	1	0	0	0	0	0		
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0		
G	4	0	1	0	0	1		
	5	0	1	0	0	1	0.67	0.58
	6	0	0	0	0	0		

*SD: Standard Deviation

Table S2. Viscosity measurement results for the seven topical antiparasitics evaluated

Treatment	Measured value (mPa/s) (mPa.s)	Viscosity* (mPa/s) (mPa.s)	SD**
A	3.13		
	3.14	3.14	0.0152
	3.16		
B	9.63		
	9.57	9.58	0.0416
	9.55		
C	8.31		
	8.27	8.30	0.0230
	8.31		
D	19.6		
	19.6	19.6	0.0577
	19.7		
E	16.3		
	16.2	16.2	0.0577
	16.2		

F	8.94 8.94 8.93	8.94	0.0057
G	8.58 8.54 8.56	8.56	0.0200

* Mean of three measurement values
**SD: Standard Deviation

Table S3. Treatment preferences among cat owners globally and per country

Country	Treatment	N	Proportion (%)	Confidence Interval (95% CI)	p-value
All countries	A	569	54.7	0.5471 ± 0.0302	0.0023
	B	471	45.3	0.4529 ± 0.0302	
	A	642	61.7	0.6173 ± 0.0295	0.0000
	C	398	38.3	0.3827 ± 0.0295	
	A	751	72.2	0.7221 ± 0.0272	0.0000
	D	289	27.8	0.2779 ± 0.0272	
UK	A	147	56.5	0.5654 ± 0.0602	0.0349
	B	113	43.5	0.4346 ± 0.0602	
	A	166	63.8	0.6385 ± 0.0584	0.0000
	C	94	36.2	0.3615 ± 0.0584	
	A	186	71.5	0.7154 ± 0.0548	0.0000
	D	74	28.5	0.2846 ± 0.0548	
Canada	A	160	61.5	0.6154 ± 0.0591	0.0002
	B	100	38.5	0.3846 ± 0.0591	
	A	137	52.7	0.5269 ± 0.0606	0.3852
	C	123	47.3	0.4731 ± 0.0606	
	A	198	76.1	0.7615 ± 0.0518	0.0000
	D	62	23.9	0.2385 ± 0.0518	
Australia and New Zealand	A	118	45.4	0.4538 ± 0.0605	0.1366
	B	142	54.6	0.5462 ± 0.0605	
	A	182	70.0	0.7000 ± 0.0557	0.0000
	C	78	30.0	0.3000 ± 0.0557	
	A	172	66.2	0.6615 ± 0.0575	0.0000
	D	88	33.6	0.3385 ± 0.0575	
Spain and Greece	A	144	55.4	0.5538 ± 0.0604	0.0824
	B	116	44.6	0.4462 ± 0.0604	
	A	157	60.4	0.6038 ± 0.0594	0.0008
	C	103	39.6	0.3962 ± 0.0594	
	A	195	75.0	0.7500 ± 0.0526	0.0000
	D	65	25.0	0.2500 ± 0.0526	

Significance levels (chi-square test): * $p < 0.05$, ** $p < 0.01$

Table S4. Pet owner treatment preferences according to demographics

Demographics	Treatment	N	Proportion (%)	Confidence Interval (95% CI)	p-value
Male	A	269	56.0	0.5604 ± 0.0444	0.0081
	B	211	44.0	0.4396 ± 0.0444	
	A	289	60.2	0.6021 ± 0.0437	0.0000
	C	191	39.8	0.3979 ± 0.0437	
	A	340	70.8	0.7083 ± 0.0406	0.0000
	D	140	29.2	0.2917 ± 0.0406	
Female	A	298	53.5	0.535 ± 0.04142	0.0984
	B	259	46.5	0.465 ± 0.04142	
	A	350	62.8	0.6284 ± 0.0401	0.0000
	C	207	37.2	0.3716 ± 0.0401	
	A	409	73.4	0.7343 ± 0.0366	0.0000
	D	148	26.6	0.2657 ± 0.0366	
18-30 years old	A	68	56.7	0.5667 ± 0.0886	0.1441
	B	52	43.3	0.4333 ± 0.0886	
	A	62	51.7	0.5167 ± 0.0894	0.7150
	C	58	48.3	0.4833 ± 0.0894	
	A	82	68.3	0.6833 ± 0.0832	0.0001
	D	38	31.7	0.3167 ± 0.0832	
31-40 years old	A	117	57.9	0.5792 ± 0.0680	0.0244
	B	85	42.0	0.4208 ± 0.0680	
	A	122	60.4	0.604 ± 0.06744	0.0031
	C	80	39.6	0.396 ± 0.06744	
	A	141	69.8	0.698 ± 0.06331	0.0000
	D	61	30.2	0.302 ± 0.06331	
41-50 years old	A	138	59.7	0.5974 ± 0.0632	0.0031
	B	93	40.3	0.4026 ± 0.0632	
	A	141	61.0	0.6104 ± 0.0628	0.0008
	C	90	39.0	0.3896 ± 0.0628	
	A	181	78.4	0.7835 ± 0.0531	0.0000
	D	50	21.7	0.2165 ± 0.0531	
51-60 years old	A	112	51.9	0.5185 ± 0.0666	0.5862
	B	104	48.2	0.4815 ± 0.0666	
	A	130	60.2	0.6019 ± 0.0652	0.0028
	C	86	39.8	0.3981 ± 0.0652	
	A	155	71.8	0.7176 ± 0.0600	0.0000
	D	61	28.2	0.2824 ± 0.0600	
61-70 years old	A	87	47.3	0.4728 ± 0.0721	0.4610
	B	97	52.7	0.5272 ± 0.0721	
	A	127	69.0	0.6902 ± 0.0668	0.0000
	C	57	31.0	0.3098 ± 0.0668	
	A	130	70.7	0.7065 ± 0.0657	0.0000
	D	54	29.4	0.2935 ± 0.0657	

71+ years old	A	47	54.0	0.5402 ± 0.1047	0.4530
	B	40	46.0	0.4598 ± 0.1047	
	A	60	69.0	0.6897 ± 0.0972	0.0004
	C	27	31.0	0.3103 ± 0.0972	
	A	62	71.3	0.7126 ± 0.0950	0.0001
	D	25	28.7	0.2874 ± 0.0950	
Not insured	A	365	53.6	0.5360 ± 0.0374	0.0604
	B	316	46.4	0.464 ± 0.03746	
	A	454	66.7	0.6667 ± 0.0354	0.0000
	C	227	33.3	0.3333 ± 0.0354	
	A	504	74.0	0.7401 ± 0.0329	0.0000
	D	177	26.0	0.2599 ± 0.0329	
Insured	A	204	56.8	0.5682 ± 0.0512	0.0097
	B	155	43.2	0.4318 ± 0.0512	
	A	188	52.4	0.5237 ± 0.0516	0.3696
	C	171	47.6	0.4763 ± 0.0516	
	A	247	68.8	0.6880 ± 0.0479	0.0000
	D	112	31.2	0.3120 ± 0.0479	

* Statistical significance ($p<0.05$)
**Statistical significance ($p<0.01$)

Table S5. The impact of the perceived product attribute importance on pet owner preferences when choosing among the different treatment profiles

Product attribute: rating	**Treatment**	**N**	**Proportion (%)**	**Confidence Intervals (95% CI)**	**p-value**
Duration of protection: ≤6	A	296	58.3	0.5827 ± 0.0428	0.0002
	B	212	41.7	0.4173 ± 0.0428	
	A	313	61.6	0.6161 ± 0.0422	0.0000
	C	195	38.4	0.3839 ± 0.0422	
	A	368	72.4	0.7244 ± 0.0388	0.0000
	D	140	27.6	0.2756 ± 0.0388	
Duration of protection: 7	A	273	51.3	0.5132 ± 0.0424	0.5439
	B	259	48.7	0.4868 ± 0.0424	
	A	329	61.8	0.6184 ± 0.0412	0.0000
	C	203	38.2	0.3816 ± 0.0412	
	A	383	72.0	0.7199 ± 0.0381	0.0000
	D	149	28.0	0.2801 ± 0.0381	
Ease of use of applicator device: ≤6	A	321	56.9	0.5691 ± 0.0408	0.0010
	B	243	43.0	0.4309 ± 0.0408	
	A	340	60.3	0.6028 ± 0.0403	0.0000
	C	224	39.7	0.3972 ± 0.0403	
	A	396	70.2	0.7021 ± 0.0377	0.0000
	D	168	29.8	0.2979 ± 0.0377	
	A	248	52.1	0.5210 ± 0.0448	0.3593

Ease of use of applicator device: 7	B	228	47.9	0.4790 ± 0.0448	
	A	302	63.5	0.6345 ± 0.0432	0.0000
	C	174	36.5	0.3655 ± 0.0432	
	A	355	74.6	0.7458 ± 0.0391	0.0000
	D	121	25.4	0.2542 ± 0.0391	
Spectrum/ number of parasites covered: ≤6	A	306	55.0	0.5494 ± 0.0413	0.0198
	B	251	45.0	0.4506 ± 0.0413	
	A	333	59.8	0.5978 ± 0.0407	0.0000
	C	224	40.2	0.4022 ± 0.0407	
	A	410	73.6	0.7361 ± 0.0366	0.0000
	D	147	26.4	0.2639 ± 0.0366	
Spectrum/ number of parasites covered: 7	A	263	54.5	0.5445 ± 0.0444	0.0504
	B	220	45.6	0.4555 ± 0.0444	
	A	309	64.0	0.6398 ± 0.0428	0.0000
	C	174	36.0	0.3602 ± 0.0428	
	A	341	70.6	0.7060 ± 0.0406	0.0000
	D	142	29.4	0.2940 ± 0.0406	
Ability to confirm successful administration of treatment: ≤6	A	354	54.4	0.5438 ± 0.0382	0.0255
	B	297	45.6	0.4562 ± 0.0382	
	A	391	60.0	0.6006 ± 0.0376	0.0000
	C	260	40.0	0.3994 ± 0.0376	
	A	465	71.4	0.7143 ± 0.0347	0.0000
	D	186	28.6	0.2857 ± 0.0347	
Ability to confirm successful administration of treatment: 7	A	215	55.3	0.5527 ± 0.0494	0.0376
	B	174	44.7	0.4473 ± 0.0494	
	A	251	64.5	0.6452 ± 0.0475	0.0000
	C	138	35.5	0.3548 ± 0.0475	
	A	286	73.5	0.7352 ± 0.0438	0.0000
	D	103	26.5	0.2648 ± 0.0438	
Preparation required for applicator device: ≤6	A	413	54.4	0.5441 ± 0.0354	0.0150
	B	346	45.6	0.4559 ± 0.0354	
	A	481	63.4	0.6337 ± 0.0342	0.0000
	C	278	36.6	0.3663 ± 0.0342	
	A	550	72.5	0.7246 ± 0.0317	0.0000
	D	209	27.5	0.2754 ± 0.0317	
Preparation required for applicator device: 7	A	156	55.5	0.5552 ± 0.0581	0.0644
	B	125	44.5	0.4448 ± 0.0581	
	A	161	57.3	0.5730 ± 0.0578	0.0145
	C	120	42.7	0.4270 ± 0.0578	
	A	201	71.5	0.7153 ± 0.0527	0.0000
	D	80	28.5	0.2847 ± 0.0527	
Drying time: ≤6	A	426	52.5	0.5246 ± 0.0343	0.1604
	B	386	47.5	0.4754 ± 0.0343	
	A	507	62.4	0.6244 ± 0.0333	0.0000
	C	305	37.6	0.3756 ± 0.0333	

	A	585	72.0	0.7204 ± 0.0308	0.0000
	D	227	28.0	0.2796 ± 0.0308	
Drying time: 7	A	143	62.7	0.6272 ± 0.0627	0.0001
	B	85	37.3	0.3728 ± 0.0627	
	A	135	59.2	0.5921 ± 0.0637	0.0054
	C	93	40.8	0.4079 ± 0.0637	
	A	166	72.8	0.7281 ± 0.0577	0.0000
	D	62	27.2	0.2719 ± 0.0577	
Volume of medication to be applied: ≤6	A	442	54.7	0.5470 ± 0.0343	0.0075
	B	366	45.3	0.4530 ± 0.0343	
	A	498	61.6	0.6163 ± 0.0335	0.0000
	C	310	38.4	0.3837 ± 0.0335	
	A	583	72.2	0.7215 ± 0.0309	0.0000
	D	225	27.9	0.2785 ± 0.0309	
Volume of medication to be applied: 7	A	127	54.7	0.5474 ± 0.0640	0.1486
	B	105	45.3	0.4526 ± 0.0640	
	A	144	62.0	0.6207 ± 0.0624	0.000
	C	88	37.9	0.3793 ± 0.0624	
	A	168	72.4	0.7241 ± 0.0575	0.0000
	D	64	27.6	0.2759 ± 0.0575	
Length of time before cat can be touched: ≤6	A	434	53.8	0.5378 ± 0.0344	0.0318
	B	373	46.2	0.4622 ± 0.0344	
	A	497	61.6	0.6159 ± 0.0335	0.0000
	C	310	38.4	0.3841 ± 0.0335	
	A	579	71.8	0.7175 ± 0.0310	0.0000
	D	228	28.3	0.2825 ± 0.0310	
Length of time before cat can be touched: 7	A	135	57.9	0.5794 ± 0.0633	0.0154
	B	98	42.1	0.4206 ± 0.0633	
	A	145	62.2	0.6223 ± 0.0622	0.0002
	C	88	37.8	0.3777 ± 0.0622	
	A	172	73.8	0.7382 ± 0.0564	0.0000
	D	61	26.2	0.2618 ± 0.0564	

Significance levels (chi-square test): * $p < 0.05$, ** $p < 0.01$.

Table S6. Regression analysis. Predictors of preference for Treatment A vs. Treatment B

Predictor	Coefficient (β)	Standard Error	Significance Level
Experience with Previous Therapy	-0.055	0.039	
Ease of use of applicator device	-0.076	0.043	$p < 0.1$
Pet owner familiarity/ satisfaction with current treatment	-0.023	0.042	
Ability to confirm successful administration of treatment	0.111	0.043	$p < 0.05$
Need for Gloves	0.019	0.054	

Drying time	0.087 *	0.051	p < 0.1
Frequency of administration	-0.067	0.046	
The spectrum/number of parasites covered	0.051	0.039	
Length of protection time against parasites	-0.061	0.041	
Restrictions by age of the cat	0.120	0.054	p < 0.05
Restrictions Relating to Reproduction	-0.002	0.055	
Oiliness	0.052	0.066	
Volume required for adequate protection	-0.048	0.053	
Risk of creating a mess	0.096	0.053	p < 0.1
The risk that the treatment will be transferred from the cat onto family members or furniture, before drying	-0.110	0.051	p < 0.01
The smell of a treatment formulation	0.066	0.056	
Length of time before the cat can interact with people	-0.010	0.055	
Length of time before the cat can touch/rest on the furniture	-0.005	0.055	
Appearance of treatment at site of administration following application	0.062	0.066	
Preparation required for application	0.046	0.047	
Length of time before feline can interact with other pets	-0.027	0.051	
Constant	0.501	0.027	p < 0.01
F Statistic (df = 21; 871)	2.326		p < 0.01

$R^2 = 0.053$
Adjusted $R^2 = 0.030$
Residual Std. Error (df = 871) = 0.493

Table S7. Regression analysis. Predictors of preference for Treatment A vs. Treatment C

Predictor	**Coefficient (β)**	**Standard Error**	**Significance Level**
Experience with Previous Therapy	0.048	0.038	
Ease of use of applicator device	0.050	0.042	
Pet owner familiarity/ satisfaction with current treatment	0.057	0.041	
Ability to confirm successful administration of treatment	0.043	0.042	
Need for Gloves	-0.100	0.053	p < 0.1

Drying time	-0.006	0.050	
Frequency of administration	-0.044	0.045	
The spectrum/number of parasites covered	0.017	0.038	
Length of protection time against parasites	-0.022	0.040	
Restrictions by age of the cat	0.043	0.053	
Restrictions Relating to Reproduction	-0.054	0.054	
Oiliness	-0.056	0.064	
Volume required for adequate protection	0.045	0.052	
Risk of creating a mess	-0.071	0.052	
The risk that the treatment will be transferred from the cat onto family members or furniture, before drying	0.046	0.050	
The smell of a treatment formulation	-0.038	0.055	
Length of time before the cat can interact with people	0.072	0.054	
Length of time before the cat can touch/rest on the furniture	-0.126	0.054	$p < 0.05$
Appearance of treatment at site of administration following application	0.104	0.065	
Preparation required for application	-0.105	0.046	$p < 0.05$
Length of time before feline can interact with other pets	0.043	0.050	
Constant	0.601	0.027	$p < 0.01$
F Statistic (df = 21; 871)	1.541 *		$p < 0.1$

$R^2 = 0.036$
Adjusted $R^2 = 0.013$
Residual Std. Error (df = 871) = 0.483

Table S8. Regression analysis. Predictors of preference for Treatment A vs. Treatment D

Experience with Previous Therapy	**Coefficient (β)**	**Standard Error**	**Significance Level**
Ease of use of applicator device	-0.010	0.036	
Pet owner familiarity/ satisfaction with current treatment	0.081	0.040	$p < 0.05$
Ability to confirm successful administration of treatment	0.007	0.039	
Need for Gloves	0.016	0.040	
Drying time	-0.058	0.050	

Frequency of administration	0.008	0.047	
The spectrum/number of parasites covered	-0.036	0.042	
Length of protection time against parasites	-0.061	0.036	$p < 0.1$
Restrictions by age of the cat	-0.014	0.038	
Restrictions Relating to Reproduction	0.032	0.050	
Oiliness	0.006	0.051	
Volume required for adequate protection	-0.133	0.061	$p < 0.05$
Risk of creating a mess	0.014	0.048	
The risk that the treatment will be transferred from the cat onto family members or furniture, before drying	0.026	0.048	
The smell of a treatment formulation	-0.041	0.047	
Length of time before the cat can interact with people	0.076	0.051	
Length of time before the cat can touch/rest on the furniture	-0.023	0.051	
Appearance of treatment at site of administration following application	0.104	0.051	$p < 0.05$
Preparation required for application	-0.010	0.061	
Length of time before feline can interact with other pets	-0.045	0.043	
Constant	-0.003	0.047	
Experience with Previous Therapy	0.713	0.025	$p < 0.01$
F Statistic (df = 21; 871)	1.078		

$R^2 = 0.025$
Adjusted $R^2 = 0.002$
Residual Std. Error (df = 871) = 0.454