

Successive negative contrast: An appropriate approach to measure affective state in dogs?

Ana Catarina Vieira de Castro<https://orcid.org/0000-0002-3357-7282>^{1,2}, Parizad Baria-Unwalla
<https://orcid.org/0000-0001-7701-170X>^{1,2}, Ana Rita Cabrita<https://orcid.org/0000-0002-1904-0358>³, Ingrid Anna Sofia Olsson<https://orcid.org/0000-0002-4369-8723>^{1,2}

¹ IBMC – Instituto de Biologia Molecular e Celular, Universidade do Porto, Rua Alfredo Allen, 208, 4200-135 Porto, Portugal

² i3S – Instituto de Investigação e Inovação em Saúde, Universidade do Porto, Rua Alfredo Allen, 208, 4200-135 Porto, Portugal

³ REQUIMTE, LAQV, ICBAS-UP - Instituto de Ciências Biomédicas Abel Salazar, Universidade do Porto, [Rua Jorge de Viterbo Ferreira, 228, 4050-313 Porto](#), Portugal

Author for correspondence: Ana Catarina Vieira de Castro, email: ana.castro@ibmc.up.pt

Table S1. Dog demographic data.

Population	DogID	Sex	Age (years)	Breed	Weight range (kg)	Neuter status
Laboratory	L1	F	2	Beagle	5–10	Neutered
	L2	F	2	Beagle	10–15	Neutered
	L3	F	2	Beagle	10–15	Neutered
	L4	M	2	Beagle	10–15	Neutered
	L5	M	2	Beagle	10–15	Neutered
	L6	F	2	Beagle	10–15	Neutered
	L7	F	2	Beagle	10–15	Neutered
	L8	M	2	Beagle	10–15	Neutered
	L9	M	2	Beagle	10–15	Neutered
	L10	F	2	Beagle	10–15	Neutered
	L11	M	2	Beagle	10–15	Neutered
	L12	M	2	Beagle	10–15	Neutered
Shelter	S1	F	4	Mixed	15–20	Not neutered
	S2	M	7	Mixed	20–25	Neutered
	S3	M	1	Mixed	25–30	Not neutered
	S4	F	3	Mixed	25–30	Neutered
	S5	M	6	Mixed	10–15	Neutered
	S6	M	6	Mixed	20–25	Neutered
	S7	M	1	Mixed	20–25	Not neutered
	S8	M	8	Mixed	25–30	Neutered
	S9	F	3	Mixed	15–20	Neutered
	S10	F	6	Mixed	20–25	Neutered
	S11	M	5	Bull Terrier	25–30	Neutered
	S12	M	3	Mixed	25–30	Neutered
Owned	O1	F	8	Mixed	15–20	Neutered
	O2	M	5	Australian Shepherd	20–25	Not neutered
	O3	F	3	Mixed	20–25	Neutered
	O4	M	4	Mixed	15–20	Neutered
	O5	F	7	Mixed	15–20	Neutered
	O6	F	2	American Bully	15–20	Not neutered
	O7	M	3	Mixed	10–15	Neutered
	O8	F	7	Mixed	10–15	Neutered
	O9	M	7	Mixed	20–25	Neutered
	O10	F	7	Beagle	15–20	Neutered
	O11	F	7	Beagle	15–20	Neutered

O12	F	7	Mixed	10–15	Not neutered
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Table S2. Food preference test spreadsheets showing two different counterbalancing orders. In Stage 3, the location of the food type preferred by the dog in Stage 2 was reversed.

A)

Stage 1 - Side Bias			Stage 2 – High-value vs High-value				Stage 3 – High-value vs Low-value			
Trial	Bowl shown 1st	Choice	Pre-test	Trial	Bowl shown 1st	Choice	Pre-test	Trial	Bowl shown 1st	Choice
1	left			1	left			1	left	
2	right			2	right			2	right	
3	right									
4	left									
5	right									
6	left									
			Test	Trial	Bowl shown 1st	Choice	Test	Trial	Bowl shown 1st	Choice
				1	left			1	left	
				2	right			2	right	
				3	right			3	right	
				4	left			4	left	
				5	left			5	left	
				6	right			6	right	
				7	left			7	left	
				8	left			8	left	
				9	right			9	right	
				10	right			10	right	

Food type location		Food type location
Left	Liver	Left (REVERSE!)
Right	Sausage	Right

B)

Stage 1 - Side Bias

Trial	Bowl shown 1st	Choice
1	right	
2	left	
3	right	
4	left	
5	left	
6	right	

Stage 2 - High-value vs High-value

Pre-test	Trial	Bowl shown 1st	Choice
	1	right	
	2	left	
Test	Trial	Bowl shown 1st	Choice
	1	right	
	2	left	
	3	left	
	4	right	
	5	right	
	6	left	
	7	right	
	8	right	
	9	left	
	10	left	

Stage 3 - High-value vs Low-value

Pre-test	Trial	Bowl shown 1st	Choice
	1	right	
	2	left	
Test	Trial	Bowl shown 1st	Choice
	1	right	
	2	left	
	3	left	
	4	right	
	5	right	
	6	left	
	7	right	
	8	right	
	9	left	
	10	left	

Food type location
Left
Right

Sausage
Liver

Food type location
Left
Right

(REVERSE!)

Table S3. Proportion of High choices in Stage 3 of the food preference test. calculated as the number of trials on which the dogs chose the high over the low value food type divided by the total number of test trials (ten trials).

Population	DogID	Proportion of High choices	
Laboratory	L1	1.0	
	L2	1.0	
	L3	0.8	
	L4	0.9	
	L5	0.9	
	L6	0.9	
	L7	1.0	
	L8	0.6	
	L9	0.6	
	L10	1.0	
	L11	0.8	
	L12	0.7	
	S1	0.6	Average 0.9
Shelter	S2	0.6	
	S3	0.8	
	S4	0.9	
	S5	0.0	
	S6	0.9	
	S7	0.6	
	S8	0.7	
	S9	0.4	
	S10	0.6	
	S11	0.7	
	S12	0.6	Average 0.6
Owned	O1	0.6	
	O2	0.0	
	O3	1.0	
	O4	0.8	
	O5	1.0	
	O6	0.8	
	O7	0.9	
	O8	0.9	
	O9	0.7	
	O10	0.9	
	O11	0.2	
	O12	0.8	Average 0.7

Figure S1. Individual data for the three owned dogs that showed a response reduction in the post-shift phase (interrupted lines) plotted against the average data of the nine owned dogs that did not show a response reduction in the post-shift phase (solid line). Top left panel: Number of cones removed across trials. Top right panel: Number of rewards eaten across trials. Bottom panel: Latency to remove all cones across trials. Vertical lines indicate the different phases (pre-shift, post-shift, re-shift). Please note that data-points with no error bars refer to points for which there was no variability.

