

### Supplemental Materials

**Article Title** *Responses to Spoken Words by Domestic Dogs: A New Instrument for Use with Dog Owners*

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**Supplemental Table 1** Dog Breeds and Sample Size by Breed Type Designation

by the Fédération Cynologique Internationale (FCI)

Breed Type (FCI)	Dog Breeds	Sample Size
Herding	Australian Shepherd	6
	Belgian Shepherd Malinois	1
	Belgian Shepherd Tervuren	1
	Border Collie	15
	Cardigan Welsh Corgi	2
	German Shepherd	4
	Miniature American Shepherd	1
	Shetland Sheepdog	4
Toy-Companion	Bichon Frisé	1
	Cavalier King Charles Spaniel	2
	Chihuahua	3
	*Miniature Poodle	1
	*Standard Poodle	1
	*Toy Poodle	1
Hound	Afghan Hound	1
	Beagle	1
	Whippet	2
		4
Working-Guardian	Bernese Mountain Dog	2
	Boxer	1
	Cane Corso	1
	*English Bulldog	1
		11

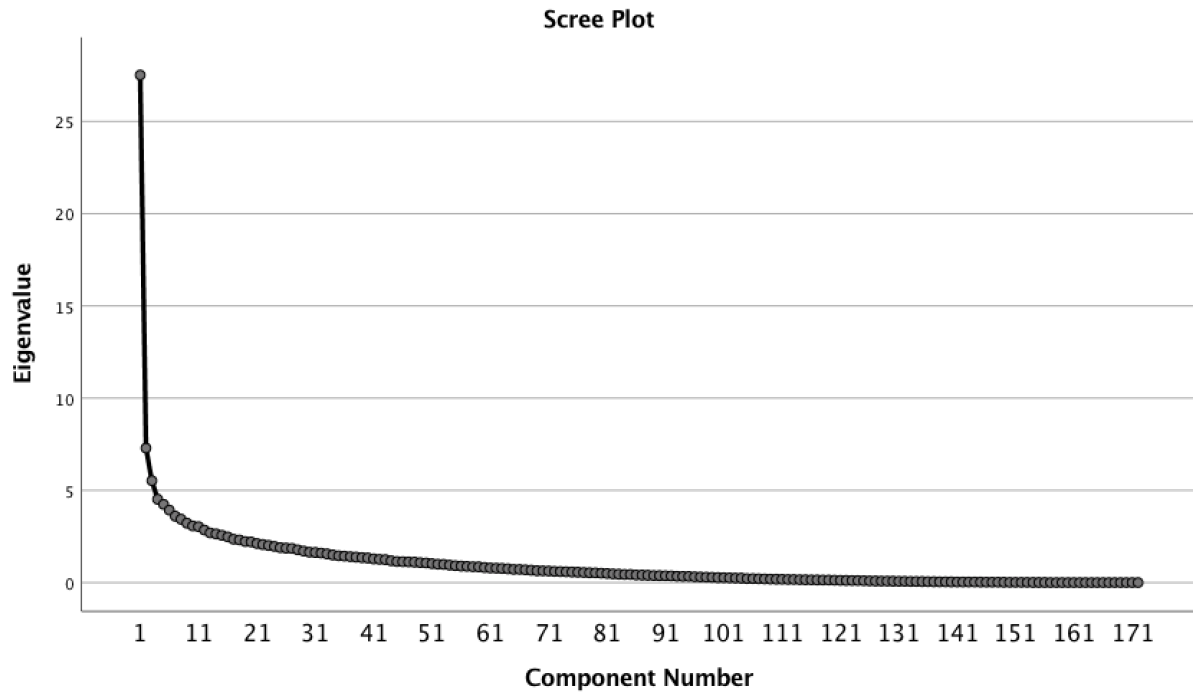
Breed Type (FCI)	Dog Breeds	Sample Size
	Giant Schnauzer	1
	Great Dane	1
	Greater Swiss Mountain Dog	1
	*Mini Schnauzer	2
	Newfoundland	1
Terrier		6
	American Staffordshire Terrier	1
	Manchester Terrier	1
	*Silky Terrier	1
	Staffordshire Bull Terrier	1
	*Toy Manchester Terrier	1
	*Yorkshire Terrier	1
Sporting-Gun		22
	American Cocker Spaniel	2
	Brittany Spaniel	2
	English Setter	1
	Flat Coated Retriever	3
	Golden Retriever	2
	Irish Water Spaniel	1
	Labrador Retriever	8
	Nova Scotia Duck Tolling Retriever	1
	*Portuguese Water Dog	1
	Welsh Springer Spaniel	1
Other Purebreds		8
	American Bulldog	1
	American Eskimo Dog	1
	English Shepherd	1
	*Icelandic Sheepdog <sup>a</sup>	1
	Mountain Cur	1
	Puggle	1
	*Pomeranian <sup>a</sup>	1
	Rat Terrier	1
Mixed Breeds	—	70
Not reported	—	1

*Note.* All breeds identified with an asterisk are grouped with different types by other kennel clubs. For example, Yorkshire Terriers are grouped as Toy Terriers (a subgroup of the Terrier group) by the Fédération Cynologique Internationale (FCI) but as Toy-Companions by the United Kennel Club, the American Kennel Club, and the Kennel Club.

<sup>a</sup>These breeds are recognized in the Spitz and Primitives group by the FCI, however, as there were only 2 dogs of this type, they were grouped with purebreds not recognized by the FCI.

**Supplemental Figure 1**

Scree Plot for the Initial Principal Components Analysis (Direct Oblimin Rotation) Conducted



**Supplemental Table 2**

Results of the Principal Components Analysis with Oblique Rotation Forcing a 3-Component Solution

Component	Initial Eigenvalues			Extraction SS Loadings			Rotation SS Loadings
	Total	% Var	Cum%	Total	% Var	Cum%	
1	27.51	16.00	16.00	27.51	16.00	16.00	23.45
2	7.29	4.24	20.23	7.29	4.24	20.23	14.51
3	5.52	3.21	23.45	5.52	3.21	23.45	13.99

**Supplemental Table 3**

Pattern and Structure Coefficients and the Communalities (Comm.) of the Forced 3-Components

(Comp.) Principal Components Analysis (Direct Oblimin Rotation)

Category (Word/Phrase)	Pattern Coefficients			Structure Coefficients			Comm.
	Comp. 1	Comp. 2	Comp. 3	Comp. 1	Comp. 2	Comp. 3	
Outside16 (Wanna' go home?)	.67			.68			.46
Game5 (Bye)	.60			.60			.37
Game7 (Where's _)	.60			.61			.37
Food5 (Treat)	.59			.50			.30
Food19 (Get water)	.59			.61	.35		.40
Outside2 (Home)	.57			.59			.35
Toy3 (Bone)	.57			.55			.33
Outside15 (Want a ride?)	.56			.56			.33
Outside10 (Walk)	.55			.53			.28
Outside14 (Want a walk?)	.54			.50			.26
Command56 (Go poo)	.54			.51			.27
Food1 (Water)	.53			.54			.30
Outside3 (Backyard)	.52			.54			.30
Food16 (Are you hungry?)	.52			.51			.26
Name3 (Mom)	.52			.53			.29
Food4 (Breakfast)	.51			.48			.24
Name30 (Squirrel)	.51			.50			.26
Game4 (Goodnight)	.50			.55		.38	.35
Toy1 (Ball)	.49			.51	.34		.30
Command60 (Get out of the_)	.49			.56	.44		.39
Name28 (Dog)	.48			.55			.31
Game8 (Who's that?)	.48			.47			.22
Name2 (Owner Name)	.48			.45			.26
Toy7 (Go get your_)	.47			.49			.25
Toy2 (Stick)	.47			.46			.22
Command51 (No jumping)	.47			.47			.23
Food18 (Come eat)	.46			.44			.21
Command53 (No biting)	.46			.47			.22
Household23 (Inside)	.44			.48	.33		.26
Household19 (Kitchen)	.43		.32	.55		.47	.39
Outside1 (Park)	.43			.54		.44	.36
Command57 (Go get it!)	.42			.39			.21
Game3 (All done)	.42			.48	.37		.29
Household22 (Downstairs)	.42			.44			.20
Household6 (Blanket)	.42			.45			.23
Household16 (Bedroom)	.42			.52		.42	.33
Food12 (Carrot)	.41			.41			.18
Name4 (Dad)	.41			.39			.16
Command48 (Gentle)	.41			.43			.18

Household18 (Person's Room)	.41	.34	.49	.48	.36
Name29 (Cat)	.40		.48		.25
Toy5 (Bear/Teddy)	.40		.42		.18
Game10 (So pretty/handsome)	.40		.40		.17
Food8 (Dish)	.39		.39		.16
Game1 (I love you!)	.39		.45	.42	.30
Household11 (Garbage)	.39		.43		.19
Command31 (Let go)	.39		.46	.34	.25
Household21 (Upstairs)	.39		.41		.17
Food11 (Cheese)	.39		.41		.19
Command21 (Hug)	.38		.44		.20
Command62 (Out)	.38		.47	.38	.28
Food17 (Do you want dinner?)	.38		.41		.18
Food2 (Dinner)	.38		.39		.17
Command22 (Kiss)	.37		.41		.18
Household9 (Window)	.37		.45	.34	.24
Household10 (Couch)	.37	.32	.51	.46	.35
Household1 (Bed)	.36		.36		.13
Game2 (Thank you!)	.36		.48	.34	.29
Command52 (No eating!)	.36		.36		.14
Food7 (Bowl)	.35		.44	.40	.26
Household3 (Bath)	.35		.43		.21
Toy4 (Rope)	.35		.44	.34	.24
Household20 (Living room)	.34		.43	.36	.23
Command30 (Drop)	.34		.34		.15
Name7 (Family member #2)	.34		.37	.37	.24
Game6 (Shh)	.34		.39		.16
Command27 (Move)	.33		.44	.36	.25
Food14 (Peanut butter)	.33		.40		.19
Household12 (Leash)	.33	.33	.49	.46	.34
Game11 (What a sweetie!)	.33		.34		.11
Name6 (Family member #1)	.32		.37	.39	.24
Command2 (No)	.32				.09
Command11 (Spin)	.76			.68	.52
Command18 (Touch)	.74			.70	.50
Command23 (Back)	.63		.33	.68	.47
Command39 (Left)	.62			.64	.43
Command40 (Right)	.62			.64	.43
Command19 (Hold)	.60			.58	.35
Command37 (Tug/Pull)	.57			.60	.38
Command8 (Sit pretty)	.56			.56	.32
Command44 (Watch)	.55			.59	.39
Command34 (Heal)	.54			.54	.29
Household2 (Crate)	.50			.44	.22
Command20 (Take it)	.49			.53	.30
Command43 (Easy)	.48		.33	.54	.33
Command9 (Speak)	.45			.47	.23

Command54 (Walk to the side)	.45		.48	.25
Command46 (Crawl)	.44	.36	.52	.33
Command29 (Fetch)	.44		.47	.25
Command14 (High five)	.41		.43	.18
Command15 (On)	.40	.32	.46	.24
Toy10 (Frisbee)	.39	.36	.47	.27
Command42 (Fast)	.39		.44	.22
Command38 (Bring)	.35	.38	.43	.48
Command49 (Loud)	.38		.40	.33
Command28 (Roll over)	.36		.34	.12
Command33 (Enough)	.36	.32	.43	.22
Command61 (Get back)	.32	.35	.44	.46
Command1 (Yes)	.35		.41	.21
Command63 (Outside)	.35	.35	.43	.23
Toy6 (Tug toy)	.34	.35	.42	.22
Command13 (Shake)	.33		.36	.14
Command16 (Off)	.33		.36	.16
Name24 (Other pet name #3)	.32		.33	.16
Household7 (Keys)	.32		.34	.15
Name15 (Friend #5)	.70		.70	.50
Name14 (Friend #4)	.70		.70	.49
Name17 (Neighbor #2)	.67		.67	.44
Name13 (Friend #3)	.67		.66	.44
Name18 (Neighbor #3)	.66		.63	.40
Name20 (Neighbor#5)	.65		.62	.39
Name19 (Neighbor #4)	.60		.58	.35
Name12 (Friend #2)	.60		.63	.41
Name10 (Family member #5)	.57		.57	.32
Name16 (Neighbor #1)	.56		.58	.34
Name11 (Friend #1)	.52	.32	.57	.35
Name27 (Vet name)	.51		.51	.27
Outside6 (Groomer)	.47		.47	.22
Name9 (Family member #	.47		.48	.23
Household15 (Coat)	.35	.33	.43	.22
Outside11 (Lake)	.35	.34	.43	.24
Household13 (Collar)	.35	.43	.46	.31
Outside4 (Work)	.34		.40	.23
Name8 (Family member #3)	.34		.40	.23
Outside5 (Vet)	.34	.37	.43	.24
Household17 (Bathroom)	.34	.49	.36	.48
Household14 (Harness)	.33	.35	.42	.24
Household4 (Vacuum)	.33	.34	.41	.22

*Note.* For brevity and clarity, only the 128 words and phrases with at least one pattern coefficient equal to or greater than  $|.32|$  are shown (see Tabachnick and Fidell, 2013), and only those coefficients equal to or greater than  $|.32|$  are shown.