## S4 Table - Second step 32-item dog-directed PSDQ Principal Component Analysis

Dutch dog owners (N=518) filled out a 32-item Parenting Styles and Dimensions Questionnaire (PSDQ) adapted for assessing dog-directed parenting styles. Answers on a five-point Likert scale were analysed by Principal Components Analysis, omitting items with loadings < |0.4| for the main components. Presented are the final outcomes on eighteen items with loadings  $\ge |0.4|$  and percentages of variation explained by two components of parenting authoritarian-correction orientated (two times four items), one component of authoritative-intrinsic value orientated (six items) and one of authoritative-training orientated (four items), together explaining 48% of variation.

	Variation explained (latent root)			
	22%	6%	12%	8%
	(4.6)	(1.2)	(2.6)	(1.8)
	Authoritaria n-correction orientated- verbal	Authoritar ian- correction orientated- physical	Authoritati ve- intrinsic value orientated	Authoritat ive- training orientated
Authoritarian – correction orientated - verbal				
I yell or shout when my dog misbehaves. AN	0.76			
I scold or criticize when my dog's behaviour doesn't meet my expectations. AN	0.75			
I can explode in anger towards my dog when he does something he knows I don't want him to do. AN	0.61			
I raise my voice to make my dog improve. AN	0.55			
Authoritarian – correction orientated - physical				
I use physical punishment (for instance a slap or a correction chain) as a way to improve my dog's behaviour. AN		0.79		
I use a corrective slap when my dog misbehaves. AN		0.75		
I use a poke of my finger, or short kick to snap my dog out of it when it misbehaves. AN		0.74		
I grab my dog when he/she is being disobedient. AN		0.45		
Authoritative – intrinsic value orientated I allow my dog to give input on decisions for instance with regard to the route we follow on walks. AV I take my dog's desires into account before asking him to do something. AV			0.73 0.65	
I am responsive to my dog's feelings or needs. AV I encourage my dog to show how it feels, it is allowed to			0.61 0.58	
growl for instance, when uncomfortable. AV I give comfort when my dog is upset. AV			0.55	
I take into account my dog's preferences in making plans. AV			0.51	
Authoritative – training orientated				
I give praise when my dog is good. <sup>AV</sup>				0.69
I practice behaviour step by step with my dog, so I am sure he understands what I ask of him. AV				0.64
I use more or higher value reward (food or toy) when I believe my dog should really do something in a situation. AV				0.58
I think about why rules should be obeyed by my dog. AV				0.58

AN - Authoritarian item in the original PSDQ, AV - Authoritative item in the original PSDQ