

Table S1. Description and type of the measures assessing each category of behavioural indicators with the Animal Welfare Indicators (AWIN) protocol (including a Qualitative Behaviour Assessment (QBA); AWIN^{QBA}), scans and survey

<i>Measures</i>	<i>Description</i>	<i>Type</i>
Stereotypies (AWIN)	Crib-biting, Wind-Sucking, Clapping of lips, Tongue movements outside the mouth, Wood chewing, Head bobbing, Nodding, Weaving	Expressed/Not expressed (<i>Binary</i>)
Stereotypies (scans)	See Stereotypies (AWIN)	Frequency (<i>Continuous</i>)
Stereotypies (survey)	“Does the horse perform stereotypies?”	Expressed/Not expressed (<i>Binary</i>)
Aggressiveness (AWIN)	Negative signs during the human-animal relationship test: simple threat (looking with ears pointed backward) to sustained threat (approaching with ears backward and mouth open or turning hind quarters and sometimes raising a leg)	Expressed/Not expressed (<i>Binary</i>)
Aggressiveness (AWIN ^{QBA})	see “Aggressive” descriptor definition in the QBA measure, in the section Assessment of the four categories of behavioural indicators using three methods	Expressed/Not expressed (<i>Binary</i>) ¹
Aggressiveness (scans)	See Aggressiveness (AWIN)	Frequency (<i>Continuous</i>)
Aggressiveness (survey)	“Is the horse aggressive during grooming and tacking up?”	Mean of two scores from 0 (Never) to 2 (Always) (<i>Continuous</i>)
Unresponsiveness to the environment (AWIN ^{QBA})	see “Apathetic” descriptor definition in the QBA measure, in the section Assessment of the four categories of behavioural indicators using three methods	Expressed/Not expressed (<i>Binary</i>) ¹
Unresponsiveness to the environment (scans)	“Withdrawn” posture (neck horizontal at same level as back, fixed stare, ears and head static)	Frequency (<i>Continuous</i>)
Unresponsiveness to the environment (survey)	“How apathetic is the horse on a scale from 0 (never) to 10 (always)?”	Score from 0 to 10 (<i>Continuous</i>)
Hypervigilance (AWIN ^{QBA})	see “Alarmed” descriptor definition in the QBA measure, in the section Assessment of the four categories of behavioural indicators using three methods	Score (in mm) (<i>Continuous</i>)
Hypervigilance (scans)	Repeated alert postures over time and situations (elevated neck and ears pricked forward and looking intensely at the environment)	Frequency (<i>Continuous</i>)
Hypervigilance (survey)	“How anxious is the horse on a scale from 0 (never) to 10 (always)?”	Score from 0 to 10 (<i>Continuous</i>)

¹These variables were first measured as continuous data, but finally dichotomized to Expressed/Not expressed for statistical analysis because there were more than 70% of zero results.

Table S6 Descriptive statistics of each measure.

Categories of behavioural indicators	Measures	Min - Max	Mean \pm SE (25-75% quartiles)	Median	Expressed (Number of horses)	Non expressed (Number of horses)
<i>Stereotypies</i>	Stereotypies (AWIN)		<i>Binary variable</i>		14	188
	Stereotypies (scans)	0 - 23 %	0.7 \pm 0.2 % (0 – 0.4)	0 %	58	144
	Stereotypies (survey)		<i>Binary variable</i>		15	187
<i>Aggressiveness</i>	Aggressiveness (AWIN)		<i>Binary variable</i>		31	171
	Aggressiveness (AWIN ^{QBA})		<i>Binary variable</i>		19	183
	Aggressiveness (scans)	0 - 24 %	1.3 \pm 0.2 % (0 – 0.9)	0 %	86	116
	Aggressiveness (survey) ₁	0 - 2	0.35 \pm 0.04 (0 – 0.5)	0	67	135
<i>Unresponsiveness to the environment</i>	Unresponsiveness to the environment (AWIN ^{QBA})		<i>Binary variable</i>		37	165
	Unresponsiveness to the environment (scans)	0 - 19 %	2.7 \pm 0.1 % (1.4 – 3.5)	2.2 %	196	6
	Unresponsiveness to the environment (survey) ₂	0 - 10	4.5 \pm 0.13 (3 – 6)	5	198	4
<i>Hypervigilance</i>	Hypervigilance (AWIN ^{QBA})	0 - 97	7.04 \pm 0.84 (0 – 9.5)	0	100	102
	Hypervigilance (scans)	0 - 13 %	1.3 \pm 0.1 (0.4 – 1.6)	0.8 %	156	46
	Hypervigilance (survey) ₂	0 - 8	3.3 \pm 0.12 (2 – 4)	3	193	9

¹ Score from 0 to 2

² Score from 0 to 10