

11. Appendices



Figure S1: The physical restraining facility (“crush”) used for the operations of handling

11.1 Appendix to Study I

Obs	Model
1	Association Proc_Ass
2	Association Proc_Ass Dominance
3	Association Proc_Ass(Association)
4	Association Proc_Ass(Association) Dominance
5	Association Proc_Ass(Association) Testosteronet

6	Association Proc_Ass(Association) Testosteronet Age
7	Association Proc_Ass(Association) Testosteronet Age Dominance
8	Association Proc_Ass(Association) Testosteronet Aget
9	Association Proc_Ass(Association) Testosteronet Aget Dominance
10	Association Proc_Ass(Association) Testosteronet Dominance
11	Association Proc_Ass(Association) Testosteronet Number_attacked
12	Association Proc_Ass(Association) Testosteronet Number_attacked Dominance
13	Association Proc_Ass(Association) Testosteronet Sum_Interact
14	Association Proc_Ass(Association) Testosteronet Sum_Interact Dominance
15	Association Proc_Ass(Association) Testosteronet Weight2
16	Association Proc_Ass(Association) Testosteronet Weight2 Dominance
17	Association Proc_Ass(Association) Testosteronet Weight2t
18	Association Proc_Ass(Association) Testosteronet Weight2t Dominance
19	Association Proc_Ass(Association) Testosteronet(Association) Age(Association)
20	Association Proc_Ass(Association) Testosteronet(Association) Age(Association) Dominance
21	Association Proc_Ass(Association) Testosteronet(Association) Aget(Association)
22	Association Proc_Ass(Association) Testosteronet(Association) Aget(Association) Dominance
23	Association Proc_Ass(Association) Testosteronet(Association) Number_attacked (Association)
24	Association Proc_Ass(Association) Testosteronet(Association) Number_attacked (Association) Dominance
25	Association Proc_Ass(Association) Testosteronet(Association) Sum_Interact(Association)
26	Association Proc_Ass(Association) Testosteronet(Association) Sum_Interact(Association) Dominance
27	Association Proc_Ass(Association) Testosteronet(Association) Weight2(Association)
28	Association Proc_Ass(Association) Testosteronet(Association) Weight2(Association) Dominance
29	Association Proc_Ass(Association) Testosteronet(Association) Weight2t(Association)
30	Association Proc_Ass(Association) Testosteronet(Association) Weight2t(Association) Dominance

31	Association Proc_Ass(Association) Testosteronet(Association) Wins(Association)
32	Association Proc_Ass(Association) Testosteronet(Association) Wins(Association) Dominance
33	Association Proc_Ass(Association) Testosteronet*Age
34	Association Proc_Ass(Association) Testosteronet*Age Dominance
35	Association Proc_Ass(Association) Testosteronet*Age(Association)
36	Association Proc_Ass(Association) Testosteronet*Age(Association) Dominance
37	Association Proc_Ass(Association) Testosteronet*Aget
38	Association Proc_Ass(Association) Testosteronet*Aget Dominance
39	Association Proc_Ass(Association) Testosteronet*Aget(Association)
40	Association Proc_Ass(Association) Testosteronet*Aget(Association) Dominance
41	Association Proc_Ass(Association) Testosteronet*Aget(Association) Dominance
42	Association Proc_Ass(Association) Testosteronet*Sum_Interact
43	Association Proc_Ass(Association) Testosteronet*Sum_Interact Dominance
44	Association Proc_Ass(Association) Testosteronet*Weight2
45	Association Proc_Ass(Association) Testosteronet*Weight2 Dominance
46	Association Proc_Ass(Association) Testosteronet*Weight2(Association)
47	Association Proc_Ass(Association) Testosteronet*Weight2(Association) Dominance
48	Association Proc_Ass(Association) Testosteronet*Weight2t
49	Association Proc_Ass(Association) Testosteronet*Weight2t Dominance
50	Association Proc_Ass(Association) Testosteronet*Weight2t(Association)
51	Association Proc_Ass(Association) Testosteronet*Weight2t(Association) Dominance
52	Association Proc_Ass(Association)
53	Association Proc_Ass(Association) Dominance

Table TS1: A set of multiple a priori hypotheses for the dependent variable log-transformed Cortisol concentrations (“t” in the end of the name of the variable means “log-transformed”).

Obs	Model
1	Association Cortisolt Weight2t
2	Association Cortisolt Weight2t Dominance
3	Association Cortisolt Weight2t Number_attacked
4	Association Cortisolt Weight2t Number_attacked Dominance
5	Association Cortisolt Weight2t Number_attacked(Group)
6	Association Cortisolt Weight2t Sum_Interact
7	Association Cortisolt Weight2t Sum_Interact Dominance
8	Association Cortisolt Weight2t Sum_Interactt
9	Association Cortisolt Weight2t Sum_Interactt Dominance
10	Association Proc_Ass
11	Association Proc_Ass Dominance
12	Association Proc_Ass(Association) Cortisolt
13	Association Proc_Ass(Association) Cortisolt Age
14	Association Proc_Ass(Association) Cortisolt Age Dominance
15	Association Proc_Ass(Association) Cortisolt Aget
16	Association Proc_Ass(Association) Cortisolt Aget Dominance
17	Association Proc_Ass(Association) Cortisolt Dominance
18	Association Proc_Ass(Association) Cortisolt Number_attacked
19	Association Proc_Ass(Association) Cortisolt Number_attacked Dominance
20	Association Proc_Ass(Association) Cortisolt Sum_Interact
21	Association Proc_Ass(Association) Cortisolt Sum_Interact Dominance
22	Association Proc_Ass(Association) Cortisolt Weight2
23	Association Proc_Ass(Association) Cortisolt Weight2 Dominance
24	Association Proc_Ass(Association) Cortisolt Weight2t
25	Association Proc_Ass(Association) Cortisolt Weight2t Dominance
26	Association Proc_Ass(Association) Cortisolt(Association) Age(Association)

27	Association Proc_Ass(Association) Cortisolt(Association) Age(Association) Dominance
28	Association Proc_Ass(Association) Cortisolt(Association) Aget(Association) Dominance
29	Association Proc_Ass(Association) Cortisolt(Association) Number_attacked (Association) Dominance
30	Association Proc_Ass(Association) Cortisolt(Association) Sum_Interact(Association) Dominance
31	Association Proc_Ass(Association) Cortisolt(Association) Weight2(Association) Dominance
32	Association Proc_Ass(Association) Cortisolt(Association) Weight2(Association) Dominance
33	Association Proc_Ass(Association) Cortisolt(Association) Weight2t(Association)
34	Association Proc_Ass(Association) Cortisolt(Association) Weight2t(Association) Dominance
35	Association Proc_Ass(Association) Cortisolt(Association) Wins(Association)
36	Association Proc_Ass(Association) Cortisolt(Association) Wins(Association) Dominance
37	Association Proc_Ass(Association) Cortisolt*Age
38	Association Proc_Ass(Association) Cortisolt*Age Dominance
39	Association Proc_Ass(Association) Cortisolt*Age(Association)
40	Association Proc_Ass(Association) Cortisolt*Age(Association) Dominance
41	Association Proc_Ass(Association) Cortisolt*Aget
42	Association Proc_Ass(Association) Cortisolt*Aget Dominance
43	Association Proc_Ass(Association) Cortisolt*Aget(Association)
44	Association Proc_Ass(Association) Cortisolt*Aget(Association) Dominance
45	Association Proc_Ass(Association) Cortisolt*Aget(Association) Dominance
46	Association Proc_Ass(Association) Cortisolt*Sum_Interact
47	Association Proc_Ass(Association) Cortisolt*Sum_Interact Dominance
48	Association Proc_Ass(Association) Cortisolt*Weight2
49	Association Proc_Ass(Association) Cortisolt*Weight2 Dominance
50	Association Proc_Ass(Association) Cortisolt*Weight2(Association)
51	Association Proc_Ass(Association) Cortisolt*Weight2(Association) Dominance
52	Association Proc_Ass(Association) Cortisolt*Weight2t

53	Association Proc_Ass(Association) Cortisolt*Weight2t Dominance
54	Association Proc_Ass(Association) Cortisolt*Weight2t(Association)
55	Association Proc_Ass(Association) Cortisolt*Weight2t(Association) Dominance
56	Association Proc_Ass(Association) Dominance
57	Association Proc_Asst Dominance
58	Association Proc_Asst(Association)
59	Association Proc_Asst(Association) Dominance

Table TS2: A set of multiple a priori hypotheses for the dependent variable log-transformed T concentrations (“t” in the end of the name of the variable means “log-transformed”).

Obs	Model
1	Association
2	Association Age Number_attacked*Wins
3	Association Age Number_attacked*Wins Cortisolt
4	Association Age Number_attacked*Wins Testosteronet
5	Association Age Sum_Interact
6	Association Age Sum_Interact Cortisolt
7	Association Age Sum_Interact Testosteronet
8	Association Age Sum_Interact*Wins
9	Association Age Sum_Interact*Wins Cortisolt
10	Association Age Sum_Interact*Wins Testosteronet
11	Association Age Wins*Number_attacked
12	Association Age Wins*Number_attacked Cortisolt
13	Association Age Wins*Number_attacked Testosteronet
14	Association Age*Weight2 Sum_Interact Cortisolt
15	Association Age*Weight2 Sum_Interact Testosteronet
16	Association Cortisolt
17	Association Dominance

18	Association Dominance Cortisolt
19	Association Dominance Proc_Ass Age
20	Association Dominance Proc_Ass Age Cortisolt
21	Association Dominance Proc_Ass Age Number_attacked
22	Association Dominance Proc_Ass Age Number_attacked Cortisolt
23	Association Dominance Proc_Ass Age Number_attacked Testosteronet
24	Association Dominance Proc_Ass Age Testosteronet
25	Association Dominance Proc_Ass Age Sum_Interact
26	Association Dominance Proc_Ass Age Sum_Interact Cortisolt
27	Association Dominance Proc_Ass Age Sum_Interact Testosteronet
28	Association Dominance Proc_Ass Weight2
29	Association Dominance Proc_Ass Weight2 Number_attacked
30	Association Dominance Proc_Ass Weight2 Number_attacked Cortisolt
31	Association Dominance Proc_Ass Weight2 Number_attacked Testosteronet
32	Association Dominance Proc_Ass Weight2 Number_attacked* Wins Cortisolt
33	Association Dominance Proc_Ass Weight2 Number_attacked* Wins Testosteronet
34	Association Dominance Proc_Ass Weight2 Sum_Interact
35	Association Dominance Proc_Ass Weight2 Sum_Interact Cortisolt
36	Association Dominance Proc_Ass Weight2 Sum_Interact Testosteronet
37	Association Dominance Proc_Ass Weight2 Wins Cortisolt
38	Association Dominance Proc_Ass Weight2 Wins Testosteronet
39	Association Dominance Proc_Ass(Association) Age
40	Association Dominance Proc_Ass(Association) Age Sum_Interact
41	Association Dominance Proc_Ass(Association) Age Sum_Interact Cortisolt
42	Association Dominance Proc_Ass(Association) Age Sum_Interact Testosteronet
43	Association Dominance Proc_Ass(Association) Weight2
44	Association Dominance Proc_Ass(Association) Weight2 Number_attacked*Sum_Interact
45	Association Dominance Proc_Ass(Association) Weight2 Number_attacked*Sum_Interact Cortisolt

46	Association Dominance Proc_Ass(Association) Weight2 Number_attacked*Sum_Interact Testosteronet
47	Association Dominance Proc_Ass(Association) Weight2 Sum_Interact
48	Association Dominance Proc_Ass(Association) Weight2 Sum_Interact Cortisolt
49	Association Dominance Proc_Ass(Association) Weight2 Sum_Interact Testosteronet
50	Association Dominance Proc_Ass(Association) Weight2 Wins
51	Association Dominance Proc_Ass(Association) Weight2 Wins Cortisolt
52	Association Dominance Proc_Ass(Association) Weight2 Wins Testosteronet
53	Association Dominance Proc_Ass(Association) Wins Age Cortisolt
54	Association Dominance Proc_Ass(Association) Wins Age Number_attacked
55	Association Dominance Proc_Ass(Association) Wins Age Number_attacked Cortisolt
56	Association Dominance Proc_Ass(Association) Wins Age Number_attacked Testosteronet
57	Association Dominance Proc_Ass(Association) Wins Age Testosteronet
58	Association Dominance Proc_Ass(Association) Wins Weight2 Number_attacked
59	Association Dominance Proc_Ass(Association) Wins Weight2 Number_attacked Cortisolt
60	Association Dominance Proc_Ass(Association) Wins Weight2 Number_attacked Testosteronet
61	Association Dominance Testosteronet
62	Association Proc_Ass
63	Association Proc_Ass Age Number_attacked*Sum_Interact
64	Association Proc_Ass Age Number_attacked*Sum_Interact
65	Association Proc_Ass Age Number_attacked*Sum_Interact
66	Association Proc_Ass Age Number_attacked*Sum_Interact
67	Association Proc_Ass Age Number_attacked*Sum_Interact Cortisolt
68	Association Proc_Ass Age Number_attacked*Sum_Interact Testosteronet
69	Association Proc_Ass Age Number_attacked*Wins
70	Association Proc_Ass Age Number_attacked*Wins Cortisolt
71	Association Proc_Ass Age Number_attacked*Wins Testosteronet
72	Association Proc_Ass Age Sum_Interact
73	Association Proc_Ass Age Sum_Interact Cortisolt

74	Association Proc_Ass Age Sum_Interact Cortisolt
75	Association Proc_Ass Age Sum_Interact Testosteronet
76	Association Proc_Ass Age Sum_Interact Testosteronet
77	Association Proc_Ass Age Sum_Interact*Wins
78	Association Proc_Ass Age Sum_Interact*Wins Cortisolt
79	Association Proc_Ass Age Sum_Interact*Wins Cortisolt
80	Association Proc_Ass Age Sum_Interact*Wins Testosteronet
81	Association Proc_Ass Age Sum_Interact*Wins Testosteronet
82	Association Proc_Ass Age Wins*Number_attacked
83	Association Proc_Ass Age Wins*Number_attacked Cortisolt
84	Association Proc_Ass Age Wins*Number_attacked Testosteronet
85	Association Proc_Ass Age Wins*Sum_Interact
86	Association Proc_Ass Age Wins*Sum_Interact Cortisolt
87	Association Proc_Ass Age Wins*Sum_Interact Testosteronet
88	Association Proc_Ass Cortisolt
89	Association Proc_Ass Testosteronet
90	Association Proc_Ass Weight2 Number_attacked* Wins
91	Association Proc_Ass Weight2 Number_attacked* Wins Cortisolt
92	Association Proc_Ass Weight2 Number_attacked* Wins Testosteronet
93	Association Proc_Ass Weight2 Number_attacked*Sum_Interact Cortisolt
94	Association Proc_Ass Weight2 Number_attacked*Sum_Interact Testosteronet
95	Association Proc_Ass Weight2 Sum_Interact
96	Association Proc_Ass Weight2 Sum_Interact Cortisolt
97	Association Proc_Ass Weight2 Sum_Interact Testosteronet
98	Association Proc_Ass Weight2 Sum_Interact*Wins
99	Association Proc_Ass Weight2 Sum_Interact*Wins Cortisolt
100	Association Proc_Ass Weight2 Sum_Interact*Wins Testosteronet
101	Association Proc_Ass Weight2 Wins
102	Association Proc_Ass Weight2 Wins Cortisolt

103	Association Proc_Ass Weight2 Wins Testosteronet
104	Association Proc_Ass Weight2 Wins*Number_attacked*Sum_Interact
105	Association Proc_Ass Weight2 Wins*Sum_Interact
106	Association Proc_Ass Weight2 Wins*Sum_Interact Cortisolt
107	Association Proc_Ass Weight2 Wins*Sum_Interact Testosteronet
108	Association Proc_Ass Wins Age
109	Association Proc_Ass Wins Age Cortisolt
110	Association Proc_Ass Wins Age Number_attacked
111	Association Proc_Ass Wins Age Number_attacked Cortisolt
112	Association Proc_Ass Wins Age Number_attacked Testosteronet
113	Association Proc_Ass Wins Age Testosteronet
114	Association Proc_Ass Wins Weight2
115	Association Proc_Ass Wins Weight2 Number_attacked
116	Association Proc_Ass Wins Weight2 Number_attacked Cortisolt
117	Association Proc_Ass Wins Weight2 Number_attacked Testosteronet
118	Association Proc_Ass Wins Weight2 Number_attacked*Wins
119	Association Proc_Ass Wins Weight2 Number_attacked*Wins Cortisolt
120	Association Proc_Ass Wins Weight2 Number_attacked*Wins Testosteronet
121	Association Proc_Ass Wins*Age
122	Association Proc_Ass Wins*Age Cortisolt
123	Association Proc_Ass Wins*Age Testosteronet
124	Association Proc_Ass(Association)
125	Association Proc_Ass(Association) Age Sum_Interact
126	Association Proc_Ass(Association) Age Sum_Interact Cortisolt
127	Association Proc_Ass(Association) Age Sum_Interact Testosteronet
128	Association Proc_Ass(Association) Age Sum_Interact*Wins
129	Association Proc_Ass(Association) Age Sum_Interact*Wins Cortisolt
130	Association Proc_Ass(Association) Age Sum_Interact*Wins Testosteronet
131	Association Proc_Ass(Association) Age Wins*Sum_Interact

132	Association Proc_Ass(Association) Age Wins*Sum_Interact Cortisolt
133	Association Proc_Ass(Association) Age Wins*Sum_Interact Testosteronet
134	Association Proc_Ass(Association) Age*Weight2 Sum_Interact
135	Association Proc_Ass(Association) Age*Weight2 Sum_Interact Cortisolt
136	Association Proc_Ass(Association) Age*Weight2 Sum_Interact Testosteronet
137	Association Proc_Ass(Association) Cortisolt
138	Association Proc_Ass(Association) Testosteronet
139	Association Proc_Ass(Association) Weight2 Number_attacked*Wins
140	Association Proc_Ass(Association) Weight2 Number_attacked*Wins Cortisolt
141	Association Proc_Ass(Association) Weight2 Number_attacked*Wins Testosteronet
142	Association Proc_Ass(Association) Weight2 Sum_Interact
143	Association Proc_Ass(Association) Weight2 Sum_Interact Cortisolt
144	Association Proc_Ass(Association) Weight2 Sum_Interact Testosteronet
145	Association Proc_Ass(Association) Weight2 Sum_Interact*Wins
146	Association Proc_Ass(Association) Weight2 Sum_Interact*Wins Cortisolt
147	Association Proc_Ass(Association) Weight2 Sum_Interact*Wins Testosteronet
148	Association Proc_Ass(Association) Weight2 Wins
149	Association Proc_Ass(Association) Weight2 Wins Cortisolt
150	Association Proc_Ass(Association) Weight2 Wins Testosteronet
151	Association Proc_Ass(Association) Wins Age
152	Association Proc_Ass(Association) Wins Age Cortisolt
153	Association Proc_Ass(Association) Wins Age Number_attacked
154	Association Proc_Ass(Association) Wins Age Number_attacked Cortisolt
155	Association Proc_Ass(Association) Wins Age Number_attacked Testosteronet
156	Association Proc_Ass(Association) Wins Age Testosteronet
157	Association Proc_Ass(Association) Wins Age*Weight2
158	Association Proc_Ass(Association) Wins Age*Weight2 Testosteronet
159	Association Proc_Ass(Association) Wins Weight2
160	Association Proc_Ass(Association) Wins Weight2 Number_attacked

161	Association Proc_Ass(Association) Wins Weight2 Number_attacked Cortisolt
162	Association Proc_Ass(Association) Wins Weight2 Number_attacked Testosteronet
163	Association Sum_Interact
164	Association Sum_Interact Cortisolt
165	Association Sum_Interact Testosteronet
166	Association Sum_Interact*Wins
167	Association Sum_Interact*Wins Cortisolt
168	Association Sum_Interact*Wins Testosteronet
169	Association Weight2
170	Association Weight2 Cortisolt
171	Association Weight2 Number_attacked* Wins
172	Association Weight2 Testosteronet
173	Association Weight2 Sum_Interact
174	Association Weight2 Sum_Interact Cortisolt
175	Association Weight2 Sum_Interact Testosteronet
176	Association Weight2 Sum_Interact*Number_attacked
177	Association Weight2 Sum_Interact*Number_attacked Cortisolt
178	Association Weight2 Sum_Interact*Number_attacked Testosteronet
179	Association Weight2 Sum_Interact*Wins
180	Association Weight2 Sum_Interact*Wins Cortisolt
181	Association Weight2 Sum_Interact*Wins Testosteronet
182	Association Weight2 Wins
183	Association Weight2 Wins Cortisolt
184	Association Weight2 Wins Testosteronet
185	Association Weight2 Wins*Sum_Interact Sum_Interact
186	Association Weight2 Wins*Sum_Interact Sum_Interact Cortisolt
187	Association Weight2 Wins*Sum_Interact Sum_Interact Testosteronet
188	Association Wins Age
189	Association Wins Age Cortisolt

190	Association Wins Age Number_attacked
191	Association Wins Age Number_attacked Cortisolt
192	Association Wins Age Number_attacked Testosteronet
193	Association Wins Age Testosteronet
194	Association Wins Age*Sum_Interact
195	Association Wins Age*Sum_Interact Cortisolt
196	Association Wins Age*Sum_Interact Testosteronet
197	Association Wins Age*Weight2
198	Association Wins Age*Weight2 Cortisolt
199	Association Wins Age*Weight2 Testosteronet
200	Association Wins Age*Weight2 Sum_Interact
201	Association Wins Weight2 Number_attacked
202	Association Wins Weight2 Number_attacked Cortisolt
203	Association Wins Weight2 Number_attacked Testosteronet

Table TS3: A set of multiple a priori hypotheses for the dependent variable Total antler length (“t” in the end of the name of the variable means “log-transformed”).

11.2 Appendix to Study III

<p>Pre-division</p> <p>Leads the group when chased</p> <p>Stays behind when chased</p> <p>Turns back to the operators</p> <p>Stops when chased</p> <p>Chases the operators</p> <p>Division</p> <p>Attacks operator</p> <p>Threatens</p> <p>Turns when separate</p>
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Hides/Lays down
Goes spontaneously to the crush
Avoids the operator
Pushes/Attacks back the door
Weighing
Turns while on the loader
Stays while on the loader
Is afraid of entering
Is not afraid of entering
Restraining apparatus
Vocalizes
Stays in the crush
Moves in the crush
Moves when touched
Stays when touched
Pre-orbital opened
Release
Walks away
Runs away
Stops for a while

Table TS4: Behaviours scored during “crush” observations.

	Active	Socially Anxious	Aggressive	Bullying	Calm
Active	1	0.005260891	0.25680956	0.633823541	- 0.472650667
Socially Anxious	0.005260891	1	- 0.383227193	0.02813139	- 0.345081252
Aggressive	0.25680956	-0.383227193	1	0.502206508	- 0.033177032
Bullying	0.633823541	0.02813139	0.502206508	1	- 0.336381644

Calm	-0.472650667	-0.345081252	-0.033177032	0.336381644	1
Confident	0.226897461	-0.749776188	0.792219458	0.157977754	0.21916461
Excitable	0.460376866	0.072346255	0.142321498	0.254729677	-0.85598868
Friendly	-0.102996507	0.220111114	0.753296073	0.626894315	0.008102783
Inquisitive	0.016628459	-0.160453853	0.055734312	0.005264811	0.167990651
Opportunistic	0.027057169	0.223927952	0.477982586	0.524079946	0.265657629
Playful	-0.456320411	0.305516958	0.735876342	0.334388522	0.340362574
Slow-Nonactive	-0.930494449	0.028774142	0.410129461	0.750704871	0.478702423
Solitary	-0.547351857	0.059548156	0.046309848	0.005608399	0.170395255
Submissive	-0.262283066	0.571829344	0.764858683	0.271903251	0.184718659
Stubborn	0.364362754	-0.390776366	0.777891975	0.462973033	0.147895392
	Confident	Excitable	Friendly	Inquisitive	Opportunistic
Active	0.226897461	0.460376866	-0.102996507	0.016628459	0.027057169
Socially Anxious	-0.749776188	0.072346255	0.220111114	0.160453853	0.223927952
Aggressive	0.792219458	0.142321498	0.753296073	0.055734312	0.477982586
Bullying	0.157977754	0.254729677	0.626894315	0.005264811	0.524079946
Calm	0.21916461	-0.85598868	0.008102783	0.167990651	0.265657629
Confident	1	-0.039244576	0.417833468	0.085696151	0.122732713
Excitable	-0.039244576	1	0.095129874	0.240762867	0.368715085
Friendly	-0.417833468	0.095129874	1	0.238208563	0.536782012
Inquisitive	0.085696151	0.240762867	0.238208563	1	0.122139784
Opportunistic	0.122732713	-0.368715085	0.536782012	0.122139784	1
Playful	-0.634346968	-0.314214687	0.479258965	0.266829409	0.194587886
Slow-Nonactive	-0.308315931	-0.524959592	0.205773808	0.211814035	0.144322296
Solitary	-0.232279238	-0.307770405	0.543759293	0.307814736	0.190662323
Submissive	-0.912538489	0.082532383	0.466246146	0.192718891	0.296388965

Stubborn	0.779479266	0.141197721	-	0.111802695	0.411742554
	Playful	Slow- Nonactive	Solitary	Submissive	Stubborn
Active	-0.456320411	-0.930494449	-	-	0.364362754
Socially Anxious	0.305516958	0.028774142	0.059548156	0.571829344	-
Aggressive	-0.735876342	-0.410129461	0.046309848	0.764858683	0.777891975
Bullying	-0.334388522	-0.750704871	0.005608399	0.271903251	0.462973033
Calm	0.340362574	0.478702423	0.170395255	0.184718659	0.147895392
Confident	-0.634346968	-0.308315931	0.232279238	0.912538489	0.779479266
Excitable	-0.314214687	-0.524959592	0.307770405	0.082532383	0.141197721
Friendly	0.479258965	0.205773808	0.543759293	0.466246146	0.463310451
Inquisitive	0.266829409	-0.211814035	0.307814736	0.192718891	0.111802695
Opportunistic	-0.194587886	-0.144322296	0.190662323	0.296388965	0.411742554
Playful	1	0.394076552	0.150242735	0.507382569	-
Slow- Nonactive	0.394076552	1	0.485311349	0.394714115	-
Solitary	0.150242735	0.485311349	1	0.246355145	-
Submissive	0.507382569	0.394714115	0.246355145	1	-
Stubborn	-0.672612316	-0.508859782	0.292643432	0.878728172	1

Table TS5: Matrix showing the correlation between couples of items presented in the questionnaire

Item	PA1	h2	u2	com
Active	0.31	0.094	0.906	1

Aggressive	0.84	0.704	0.296	1
Confident	0.91	0.834	0.166	1
Submissive	-0.96	0.916	0.084	1
Stubborn	0.91	0.827	0.173	1

Table TS6: Standardized loadings from Exploratory (principal axis) Factor Analysis. Active does not load saliently (< 0.4) on the one factor. Other items load saliently on the factor, suggest a similar structure as PCA. Model fit indices suggest very good fit of the 1-factor model to our data (RMSR = 0.04, RMSEA = 0).

Item	Factor 1	h2
Active	0.31	0.09
Aggressive	0.84	0.70
Confident	0.92	0.84
Submissive	-0.95	0.91
Stubborn	0.91	0.82

Table TS7: Standardized loadings from Regularized Exploratory (regularized least squares) Factor Analysis (REFA). Active does not load saliently (< 0.4) on the one factor. Other items load saliently on the factor, suggesting a similar structure as PCA.

Item	Explanation	Fleiss' Kappa	p-value
Active	The deer moves around a lot, often at a fast pace, spends little time being still	0.610	< 0.01
(Socially) Anxious	The deer seems to be restless about everything and does not trust other individuals easily. It carefully controls the social surroundings	0.044	0.825
Aggressive	The deer causes harm or potential harm to other individuals, both deer and human	0.283	0.077
Bullying	A (larger) deer overreacts towards another animal of unbalanced size initiating a confrontational behaviour without a specific reason	0.410	0.065
Calm	The deer doesn't get easily excited and reacts to change in a relaxed, unhurried way	-0.287	0.127
Confident	The deer behaves in an assured manner. It makes quick decisions and does not hesitate. It initiates the interactions and displaces other deer	0.064	0.684
Excitable	The deer over reacts to any change, easily excited from outside disturbances and is not calming down easily	0.200	0.288
Friendly	The deer is not overly hostile towards others and initiates close contact to others within their group (scratching, rubbing , etc.) or lies/stands close to others (<2m) whilst resting.	-0.172	0.332
Inquisitive	The deer readily explores new situations, objects, animals or people and tries to learn new things.	0.019	0.922
Opportunistic	The deer seizes a chance as soon as it arises.	-0.082	0.624
Playful	The deer initiates play and joins in when play is solicited.	-0.065	0.789
Slow/Non active	The deer moves and rests in a relaxed manner,	0.150	0.366

	moves slowly and deliberately, not easily hurried.		
Solitary	The deer prefers to spend time alone and does not seek out contact with other deer.	0.078	0.684
Submissive	The deer gives in readily to others of a similar size and acts as though lower in rank to other deer(e.g., they will retreat or turn away in interactions).	0.511	< 0.01
Stubborn	The deer does not give up easily on some activity	0.364	0.051

Table TS8: Fleiss' Kappa values for inter-rater consistency (only novice raters).