

Table S1

Decision making across social contexts: competition increases preferences for risk in chimpanzees and bonobos

Subject	Species	Sex	Age	Study 1		Study 2	
				Neutral 1	Competition	Neutral 2	Play
Chimpanzees							
Bayokele	C	F	12	0.50	0.81	1.00	0.56
Binda*	C	F	7	0.75	1.00	1.00	1.00
Blake*	C	M	8	0.81	0.88	1.00	1.00
Christophe	C	M	19	0.69	0.94	0.50	0.88
Elikia	C	M	21	0.69	0.50	0.50	0.50
Golfi*	C	F	7	0.75	0.69	0.94	0.88
Kefan*	C	M	9	1.00	0.88	0.94	1.00
Kola	C	M	12	0.56	0.56	0.50	0.50
M'Bifini*	C	F	9	0.94	0.88	0.38	0.81
M'Boumbou	C	M	19	1.00	0.94	1.00	0.94
N'Gouba	C	F	11	0.81	1.00	1.00	1.00
PetitPere*	C	M	8	0.50	0.50	0.75	0.44
Silaho	C	F	11	0.94	1.00	0.56	0.44
Sobele	C	M	11	0.88	0.88	0.56	0.63
Tabonga	C	M	10	0.75	0.94	0.63	0.75
Tchimaka	C	M	10	0.44	0.44	0.25	0.00
Tiki	C	M	8	0.94	0.81	1.00	1.00
Timi	C	M	11	0.25	0.88	0.81	0.88
Vitika*	C	F	9	0.75	0.81	0.69	0.81
Yoko	C	M	13	0.31	0.69	0.44	0.25
Mean				0.71	0.80	0.72	0.71
Bonobos							
Api	B	M	8	0.13	0.38	0.17	0.63
Boende	B	M	9	0.81	0.69	0.75	0.88
Boyoma*	B	M	5	0.56	0.56	0.75	0.56
Dilolo	B	M	8	0.25	0.75	0.38	0.38
Isiro*	B	F	12	0.31	1.00	—	—
Kalina	B	F	11	0.19	0.19	0.41	0.50
Kasongo	B	M	7	0.38	0.38	0.56	0.38
Kikongo	B	M	8	0.50	0.63	1.00	0.88
Kikwit	B	M	11	0.13	0.56	0.38	0.38
Kisantu*	B	F	11	0.38	0.63	0.88	0.56
Mabali*	B	M	7	0.38	0.75	0.75	0.63
Maniema	B	M	7	0.06	0.56	0.06	0.00
Matadi	B	M	8	0.63	0.50	—	—
Nioki	B	F	11	0.75	0.81	0.63	0.27
Tchilenge*	B	F	6	0.88	0.88	0.94	0.75
Yolo*	B	M	6	0.81	0.50	0.69	0.75
Mean				0.45	0.61	0.59	0.54

Species, sex, age and mean choice for the risky option in each condition are shown for each subject. Some individuals participated in a previous study involving a version of the risk task approximately 1 year earlier; asterisks denote naïve individuals. Two bonobos did not complete study 2.



1. Safe option shown



2. Empty risk option



3. Occlude risk option



4. Potential risk outcomes



5. Safe option reminder



6. Choice between risk and safe

Figure S1. Basic risk paradigm used in studies 1 and 2. (1) The experimenter placed the safe option on the table in view of the subject, and then covered it with a bowl. (2) The experimenter showed the subject the empty risk bowl and (3) occluded it. (4) The experimenter showed the possible risky outcomes (half good, half bad) for that trial. Behind the occluder, the experimenter then placed one of the outcomes under the risk bowl. (5) After removing the occluder, the experimenter reminded the subject of the safe alternative's value. (6) Finally, the experimenter pushed the sliding table forward so the cups were within reach of the subject.

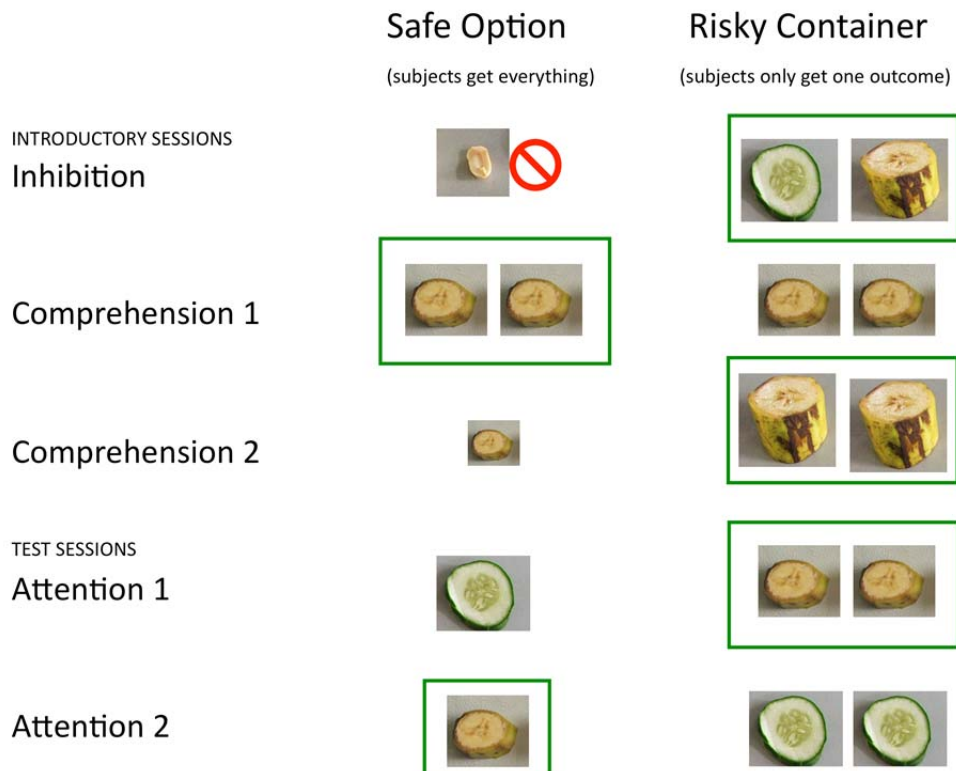


Figure S2. Control trial types in the risk task. Apes completed five types of control trials where the type, size and quantity of food varied from that used in choice trials, to assess their comprehension of the task. If they choose the risky option, subjects always received only one of the possible outcomes they saw in the risk outcome container; both potential outcomes are pictured here. For each trial type, the correct choice is marked with a box. In inhibition trials, the procedure was identical to that in normal risky choice trials, but in a final step the experimenter removed the food from under the safe option (should choose risky). In comprehension 1 trials, the safe option provided two pieces of a preferred food, and subjects saw two identical pieces in the risk outcome container (should choose safe). In comprehension 2 trials, the safe option provided a small piece of a preferred food, and the risky outcome container contained two larger pieces of the preferred food (should choose risky). In attention 1 trials, the safe option provided one piece of a preferred food, and subjects saw two pieces of a nonpreferred food in the risky outcome container (should choose risky). In attention 2 trials, the food types were reversed (should choose safe). Food types pictured were those used with chimpanzees: banana (highly preferred); cucumber (nonpreferred); peanuts (intermediate).