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Supplemental Information

Children, but Not Chimpanzees,

Prefer to Collaborate

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Table S1. Chimpanzee Participants of Study 1

The sex, estimated age, test performance (colla = choice on the collaborative board, indiv = choice on the individual board) as well as their training history [number of trials until the subject reached criterion for training phase 1 and 2, and number of successful trials on the collaborative board (colla) and the individual board (indiv) in training phase 3] of all chimpanzee subjects who participated in study 1. Note that for one subject the training 1 performance could not be coded (marked with ?)

Subject	Sex	Est. Age (years)	Test (board choice)				Training 1 (no. of trials until subject reached criterion)	Training 2 (no. of trials until subject reached criterion)				Training 3 (no. of successful trials)	
			Trial 1	Trial 2	Trial 3	Trial 4		0 sec	10 sec	20 sec	30 sec	colla	indiv
BA	male	22	colla	colla	indiv	colla	12	2	13	6	6	8	13
Elikia	male	21	colla	colla	indiv	indiv	11	2	2	5	8	11	11
Jo	male	22	colla	indiv	colla	colla	15	2	2	3	2	13	13
Tomy	male	20.5	colla	indiv	colla	colla	42	2	6	2	4	10	13
Calamity Jane	female	22	colla	indiv	colla	indiv	5	2	2	2	3	13	13
Maya	male	17	indiv	indiv	colla	colla	21	4	5	2	2	12	11
N'Golo	male	20.5	colla	indiv	colla	colla	11	6	5	6	5	12	13
Stephanie	female	21	indiv	indiv	colla	indiv	4	2	2	2	5	12	13
Tchibanga	male	13	colla	indiv	colla	indiv	28	2	2	9	2	13	12
Yoko	male	13.5	colla	colla	indiv	indiv	7	2	5	2	2	13	13
Mboumbou	male	19	indiv	colla	indiv	colla	10	2	2	6	4	13	13
Ntsere	male	16	colla	indiv	colla	colla	20	2	13	17	3	13	13
Tamishi	male	19	indiv	indiv	colla	colla	19	2	2	3	6	13	12
Ulembouka	female	11	colla	indiv	colla	indiv	12	2	10	2	4	13	12
Pembele	female	17	indiv	colla	indiv	colla	?	4	4	2	2	13	13

Table S2. Child Participants of Study 1

The sex, age, test performance (colla = choice on the collaborative board, indiv = choice on the individual board) as well as their training history [number of successful and unsuccessful trials on the collaborative board (colla) and individual board (indiv)] of all child subjects who participated in study 1. Note that for one subject the training performance could not be coded (marked with ?).

Subject	Sex	Age (years. months. days)	Test (board choice)				Training (no. of successful/unsuccessful trials)	
			Trial 1	Trial 2	Trial 3	Trial 4	colla	indiv
Child 1	female	3.2.9	colla	indiv	colla	indiv	3 / 0	3 / 0
Child 2	male	2.11.19	colla	indiv	colla	indiv	3 / 1	3 / 0
Child 3	female	2.11.17	colla	colla	indiv	colla	3 / 0	3 / 0
Child 4	female	3.1.26	colla	colla	colla	colla	3 / 0	3 / 0
Child 5	male	3.0.27	colla	colla	colla	colla	3 / 0	3 / 0
Child 6	male	2.11.29	colla	colla	colla	colla	3 / 0	3 / 0
Child 7	female	2.11.24	colla	colla	colla	colla	3 / 0	3 / 0
Child 8	male	2.10.26	colla	colla	colla	colla	3 / 0	3 / 0
Child 9	female	3.0.18	indiv	colla	colla	colla	3 / 2	3 / 0
Child 10	female	3.1.28	colla	colla	colla	colla	3 / 0	3 / 0
Child 11	male	2.11.21	colla	colla	colla	colla	3 / 0	3 / 0
Child 12	male	3.0.19	colla	indiv	colla	colla	3 / 1	3 / 0
Child 13	female	3.3.19	colla	colla	colla	colla	3 / 1	3 / 0
Child 14	male	3.1.20	indiv	colla	colla	colla	3 / 1	3 / 0
Child 15	male	2.11.15	indiv	indiv	indiv	indiv	3 / 1	3 / 0
Child 16	female	3.3.12	colla	colla	indiv	colla	3 / 1	3 / 0
Child 17	male	3.0.22	indiv	indiv	indiv	indiv	3 / 1	3 / 0
Child 18	female	2.11.22	colla	colla	colla	colla	3 / 0	3 / 0
Child 19	female	2.10.29	colla	colla	indiv	colla	3 / 1	3 / 0
Child 20	male	3.1.29	colla	colla	colla	colla	3 / 0	3 / 0
Child 21	female	3.3.6	indiv	indiv	indiv	colla	?	?
Child 22	female	3.3.0	colla	colla	colla	colla	3 / 0	3 / 0
Child 23	male	3.0.17	colla	colla	colla	colla	3 / 0	3 / 0
Child 24	male	3.3.2	colla	colla	colla	colla	3 / 1	3 / 0

Table S3. Child Participants of Study 1

The sex, age, test performance (colla = choice on the collaborative board, indiv = choice on the individual board) as well as their training history [number of successful and unsuccessful trials on the collaborative board (colla) and individual board (indiv)] of all child subjects who participated in study 1. Note that for one subject the training performance could not be coded (marked with ?).

Subject	Sex	Age (years. months. days)	Test (board choice)				Training (no. of successful/unsuccessful trials)	
			Trial 1	Trial 2	Trial 3	Trial 4	colla	indiv
Child 1	male	3.0.1	colla	colla	colla	colla	3 / 0	3 / 0
Child 2	male	3.1.6	colla	colla	colla	colla	?	?
Child 3	female	3.1.18	indiv	colla	colla	colla	3 / 1	3 / 0
Child 4	male	3.3.20	colla	colla	colla	colla	3 / 1	3 / 0
Child 5	female	3.3.13	colla	colla	colla	colla	3 / 1	3 / 0
Child 6	male	2.11.4	colla	indiv	indiv	colla	3 / 2	3 / 0
Child 7	female	3.2.14	colla	indiv	colla	colla	3 / 1	3 / 0
Child 8	female	3.2.1	colla	colla	colla	colla	3 / 0	3 / 0
Child 9	female	3.0.20	indiv	indiv	colla	colla	3 / 1	3 / 0
Child 10	female	2.11.15	indiv	indiv	colla	colla	3 / 0	3 / 0
Child 11	male	2.10.11	colla	colla	colla	colla	3 / 0	3 / 0
Child 12	male	2.10.20	colla	colla	indiv	colla	3 / 1	3 / 0

Supplemental Experimental Procedures

Apparatus

Based on prior studies [e.g. 1, 2] the boards for chimpanzees were 30x200cm in size and fitted with a feeding dish (30x40cm) at each end, holding bananas as rewards. For children, we used two wooden boxes with transparent covers (45x15x115cm) containing a board (10x113cm) similar to the ones used for chimpanzees. Gummy frogs were placed at each end as reward [3]. To emulate chimpanzees' physical setup, we placed a transparent barrier between participant and co-operator.

Training

Chimpanzees were introduced to the *individual board* first. To pass training they had to obtain the food on four consecutive trials. Afterwards chimpanzees were presented with the *collaborative board*. Once a training trial started the potential cooperative partner was either already placed to pull or the subject had to wait for increasingly long delays of 0, 10, 20 and 30 seconds. Subjects had to successfully obtain the food on two consecutive trials at any one delay in order to move on to a longer delay. After successful training with both boards, chimpanzees received a block of alternating collaborative and individual trials (13 trials on each board) in counterbalanced order. Children were exposed to the boards in similar ways. Based on previous studies [3] we used an adult co-operator during training and children received only two training trials for each board. The order in which the two boards were introduced was counterbalanced across participants. To pass training, participants had to obtain the food in two consecutive trials at each board. Given the counterbalanced order of training across participants, an additional block of alternating individual and cooperative trials was unnecessary.

Scoring and Analysis

All trials were videotaped and coding was done live and/or from video. A choice for either the *collaborative* or the *individual board* was coded when subjects pulled one of the ropes. We randomly selected 20% of all trials and a second coder who was unaware of the research question coded them for reliability. There was 100% agreement between coders (Cohen's Kappa=1.00). In addition to the analysis presented in the main text we tested effects of identity and sex of cooperation partners using a general linear mixed model with the fixed effects: trial number, gender subject, gender partner and the random effects: identity subject, identity partner. This revealed no difference in chimpanzees (chisq=0, df=1, P=1) or children (chisq=0, df=1, P=1; calculated with the function lmer from R package lme4) [4, 5]. Furthermore, given the larger age-spread of our chimpanzee sample we tested whether there was a relationship between age of the participants and their number of cooperative choices. We found no relationship (spearman $r_s(13) = .37$; $P = .17$).

Supplemental References

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4. Bates, D., and Maechler, M. (2010). lme4: Linear Mixed-Effects Models Using Eigen and S4 Classes. R Package Version 0.999375-33.
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