

Life Sciences Reporting Summary

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► Experimental design

1. Sample size

Describe how sample size was determined.

Sample size for chimpanzees was determined according to availability at the local testing facility. Sample size for the children was determined according to studies looking at similar social phenomena, with an N = 24 per age group to allow testing for age-related effects

2. Data exclusions

Describe any data exclusions.

Exclusion criteria for the chimpanzees and the children were procedural errors during either the preference or the punishment phases. This is stated on page 6 in the Supplementary Material.

3. Replication

Describe whether the experimental findings were reliably reproduced.

This is the first experiment of its kind in both chimpanzees and children. The experimental findings have not been replicated within this paper.

4. Randomization

Describe how samples/organisms/participants were allocated into experimental groups.

No method of randomization was used. All chimpanzees available at the testing facility were tested. Children were allocated to groups depending on their age.

5. Blinding

Describe whether the investigators were blinded to group allocation during data collection and/or analysis.

Investigators were blind to the data-analysis.

Note: all studies involving animals and/or human research participants must disclose whether blinding and randomization were used.

6. Statistical parameters

For all figures and tables that use statistical methods, confirm that the following items are present in relevant figure legends (or in the Methods section if additional space is needed).

n/a Confirmed

- ☐ ☒ The exact sample size (*n*) for each experimental group/condition, given as a discrete number and unit of measurement (animals, litters, cultures, etc.)
- ☐ ☒ A description of how samples were collected, noting whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
- ☐ ☒ A statement indicating how many times each experiment was replicated
- ☐ ☒ The statistical test(s) used and whether they are one- or two-sided (note: only common tests should be described solely by name; more complex techniques should be described in the Methods section)
- ☐ ☒ A description of any assumptions or corrections, such as an adjustment for multiple comparisons
- ☐ ☒ The test results (e.g. *P* values) given as exact values whenever possible and with confidence intervals noted
- ☐ ☒ A clear description of statistics including central tendency (e.g. median, mean) and variation (e.g. standard deviation, interquartile range)
- ☐ ☒ Clearly defined error bars

See the web collection on [statistics for biologists](#) for further resources and guidance.

► Software

Policy information about [availability of computer code](#)

7. Software

Describe the software used to analyze the data in this study.

It is stated now on page 15 of the main manuscript that all data were analyzed in SPSS 23 (SPSS Statistics Software, IBM).

For manuscripts utilizing custom algorithms or software that are central to the paper but not yet described in the published literature, software must be made available to editors and reviewers upon request. We strongly encourage code deposition in a community repository (e.g. GitHub). *Nature Methods* [guidance for providing algorithms and software for publication](#) provides further information on this topic.

► Materials and reagents

Policy information about [availability of materials](#)

8. Materials availability

Indicate whether there are restrictions on availability of unique materials or if these materials are only available for distribution by a for-profit company.

There are no restrictions of availability of materials or data

9. Antibodies

Describe the antibodies used and how they were validated for use in the system under study (i.e. assay and species).

N/A

10. Eukaryotic cell lines

a. State the source of each eukaryotic cell line used.

N/A

b. Describe the method of cell line authentication used.

N/A

c. Report whether the cell lines were tested for mycoplasma contamination.

N/A

d. If any of the cell lines used are listed in the database of commonly misidentified cell lines maintained by [ICLAC](#), provide a scientific rationale for their use.

N/A

► Animals and human research participants

Policy information about [studies involving animals](#); when reporting animal research, follow the [ARRIVE guidelines](#)

11. Description of research animals

Provide details on animals and/or animal-derived materials used in the study.

In Study 1 we tested 17 chimpanzees (*Pan troglodytes*). There were 5 males ranging in age between 8 and 38 years (M = 16 years and 8 months) and 12 females ranging in age between 8 and 37 years (M = 22 years and 5 months). In Study 3, we tested 14 chimpanzees. There were 5 males ranging in age between 8 and 38 years (M = 15 years and 10 months) and 9 females ranging in age between 12 and 42 years (M = 27 years and 3 months). All chimpanzees were housed at the Wolfgang Koehler Primate Research Center, Leipzig Zoo, Germany. Eleven of them participated in both studies, whereas the rest could not do so because they were unavailable (see Table S1 for rearing history and detailed participation in each study). All indoor and outdoor enclosures were furnished with vegetation, climbing structures and visual barriers. Subjects were neither food- or water-deprived during the experiment. This information is in the main manuscript. Further information on the animals' rearing history is contained in the Supplementary Materials.

12. Description of human research participants

Describe the covariate-relevant population characteristics of the human research participants.

We tested 72 children. There were three age groups: 24 4-year-olds ($M = 4.15$, age range = 4.04-4.35), 24 5-year-olds ($M = 5.04$, age range = 4.97-5.4), and 24 6-year-olds ($M = 6.17$, age range = 5.98-6.33). In each group there were equal number of boys and girls. Seven children had to be removed from the analyses due to procedural error or fussiness. All remaining subjects received all conditions. All children were recruited from a subject database at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig, Germany. This is reported in the main manuscript.