

Supplementary Materials

Study 1

Preliminary analyses revealed no effect of the counterbalancing variable relating to which side (left or right) the genuine smile was on for either age group, Wilcoxon signed-rank test: for 4-year-olds, $z=1.07$, $p=.29$, $r=.14$; for 3-year-olds, $z=0.11$, $p=.91$, $r=.02$. There were also no effects of participants' gender, independent samples t -test: for 4-year-olds, $t(22)=-0.45$, $p=.66$, $d=-.19$, for 3-year-olds, $t(22)=-1.02$, $p=.32$, $d=.43$.

The performance of both groups remained stable across trials. Four-year-olds did well from their first trial, $Q(3)=5.78$, $p=.12$, $r_{\text{equivalent}}=.32$, and 3-year-olds' performance did not improve as the trials went on, $Q(3)=3.27$, $p=.35$, $r_{\text{equivalent}}=.09$. Please see the main text and Table S1 for differences across the different face sets for the 4-year-olds. There was no effect of face set on 3-year-old children's performance, $Q(3)=2.55$, $p=.47$, $r_{\text{equivalent}}=.02$. In each age group, all except one child gave answers to all four sets of pictures.

Study 2

Preliminary analyses revealed no effect of which side the face with the genuine smile was on, Wilcoxon signed-rank test: $z=0.87$, $p=.39$, $r=.13$, and no effect of participants' gender, independent sample t -test: $t(22)=1.52$, $p=.14$, $d=.65$. Children's preference did not change across trials, Cochran's Q test: $Q(3)=1.89$, $p=.60$, $r_{\text{equivalent}}=.06$. There was also no effect of face set on children's performance, Cochran's Q test: $Q(3)=0.41$, $p=.94$, $r_{\text{equivalent}}=.43$ (see Table S1). All children gave answers to all four sets of pictures.

Study 3

Preliminary analyses revealed no effect of which side the face with the genuine smile was on, Wilcoxon signed-rank test: $z=0.51$, $p=.61$, $r=.07$, and no effect of participants'

gender, independent sample t -test: $t(22)=0.16, p=.88, d=.07$. A repeated-measures ANOVA showed that children's looking preference did not change as the trials went on, $F(3, 69)=1.94, p=.13, \eta_p^2=.04$ (the mean percentages of time they looked to the face with the genuine smile, from the first to the last face pair, were 47.3%, 56.7%, 50.8%, and 52.9%). A repeated-measures ANOVA showed that there was also no effect of face set on children's performance, $F(3,69)=1.12, p=.35, \eta_p^2=.05$ (see Table S1).

Study 4

Preliminary analyses revealed no effect of which side the face with the genuine smile was on, Wilcoxon signed-rank test: $z=1.34, p=.18, r=.19$, and no effect of participants' gender, independent sample t -test: $t(22)=-0.03, p=.98, d=.01$. A repeated-measures ANOVA showed that children's looking preference did not change as the trials went on, $F(3, 69)=0.91, p=.44, \eta_p^2=.04$ (the mean percentages of time they looked to the face with the genuine smile, from the first to the last face pair, were 51.1%, 51.3%, 51.1%, and 57.5%). There was also no effect of face set on children's performance, repeated-measures ANOVA: $F(3, 69)=0.38, p=.77, \eta_p^2=.02$ (see Table S1).

Study 5

Preliminary analyses revealed no effect of the counterbalancing variable which side the genuine smile was on, Wilcoxon signed-rank test: $z=.72, p=.47, r=.05$. Please see the main text, and Table S2, for gender differences. Children's performance did not change across trials, Cochran's Q test: $Q(3)=1.03, p=.79, r_{\text{equivalent}}=.20$. There was also no effect of face set on children's performance, Cochran's Q test: $Q(3)=7.03, p=.071, r_{\text{equivalent}}=.40$. All children except three gave answers to all four sets of pictures.

Table S1

Children's performance in each study for each face set. For Studies 1, 2, and 5, the percentage of children who correctly selected the faces with genuine smiles is listed. For Studies 3 and 4, the mean percentage of time (fixation duration, with SD in parentheses) children spent looking at the faces with genuine smiles is listed.

		Face A	Face B	Face C	Face D	Mean
Study 1	<i>Verbal discrimination test with 4-year-olds</i>	91.3%	66.7%	82.6%	58.3%	75.0%
	<i>Verbal discrimination test with 3-year-olds</i>	50.0%	54.2%	41.6%	60.9%	51.4%
Study 2	<i>Verbal preference test with 3-year-olds</i>	50.0%	45.8%	45.8%	54.2%	47.9%
Study 3	<i>Eye-tracking test with 3-year-olds</i>	54.8% (14.2%)	52.9% (13.1%)	52.4% (9.9%)	47.7% (14.2%)	52.4% (4.9%)
Study 4	<i>Eye-tracking test with 2-year-olds</i>	54.3% (13.7%)	54.7% (17.2%)	51.1% (17.2%)	50.9% (13.8%)	51.6% (4.4%)
Study 5	<i>Verbal prediction of generosity with 4- to 5-year-olds</i>	74.5%	66.7%	59.6%	47.8%	62.2%

Table S2

Children's performance in Study 5 by gender and face set.

	Face A	Face B (male face)	Face C	Face D
Girls	87.5%	66.7%	78.3%	56.5%
Boys	60.9%	66.7%	41.7%	39.1%