



## Children tell white lies to make others feel better

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We investigated whether children tell white lies simply out of politeness or as a means to improve another person's mood. A first experimental phase probed children's individual insight to use white lies when prosocial behaviour was called for. We compared a situation in which a person had expressed sadness about her artwork and the goal was to make her feel better (Sad condition) with a situation in which a person was indifferent about her work (Neutral condition). Children at 7 years and older were more likely to tell a white lie than the blunt truth in the Sad over the Neutral condition. Five-year-olds showed only a trend. A second phase tested whether children selectively use white lie telling after it was modelled by an adult. Results showed that after modelling, children from all age groups were significantly more likely to use white lies in the Sad condition than in the Neutral condition. Taken together, these results show that children are attentive to another person's affective states when choosing whether to tell a white lie or tell the truth. We discuss the emergence of this behaviour in relation to children's developing social cognition and the increasing sophistication of children's prosocial behaviour.

People tell lies to conceal their misdeeds and to trick others for their personal gain. In these cases, the speaker deceives the listener for straightforward, selfish purposes. However, people often tell lies to save others from embarrassment, to make the other feel better about themselves, or to be polite when telling the blunt truth would seem rude. These are referred to as 'white lies'. Like selfish lies, white lies are false statements to deceive a listener, but importantly, they are very different in their underlying motive. White lies are other-oriented in that their immediate aim is to improve or protect the feelings of the listener rather than helping or protecting the speaker. White lies are therefore an interesting phenomenon to investigate how children use sophisticated social cognition for prosocial purposes. When do children start to comprehend that making false statements can serve the prosocial purpose to make others feel better?

Children tell lies from early on in their development. Starting around 3–4 years of age, children hide the truth or actively deceive others to conceal information that could lead to negative consequences for themselves (see Harris, Donnelly, Guz, & Pitt-Watson, 1986; Hsu & Cheung, 2013; Lee, 2013; Talwar & Crossman, 2011 for overviews). By contrast, white lies have received little attention until recently. Three different tasks have been used to assess children's own white lie telling. First, in the '*reverse rouge task*' by Talwar and Lee (2002), children from 3 to 7 years of age stated that an adult was ready for a portrait photograph even though he had a red mark on his forehead. Second, in the '*disappointing gift task*', when children were given a bar of

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soap rather than an attractive toy from a gift basket, they often said they liked the gift (Popliger, Talwar, & Crossman, 2011; Talwar, Murphy, & Lee, 2007; Xu, Bao, Fu, Talwar, & Lee, 2010). White lie telling increased with age (Talwar *et al.*, 2007) with roughly half the children telling a white lie at 7–11 years of age (Williams, Kirmayer, Simon, & Talwar, 2013; Xu *et al.*, 2010) and 10- to 12-year-olds even telling a white lie if it was costly because it prevented them from exchanging the disappointing gift for an attractive one (Banerjee & Yuill, 1999). Third, in an ‘art-rating task’, children of 5 years and older gave slightly better ratings to a drawing when the adult who had made the drawing was present than when the adult was absent (Fu & Lee, 2007).

These studies raise questions about children’s understanding of the consequences of their false statements. Do children tell these lies because they think that their statement will affect the other person’s feelings? Previous studies have not directly assessed this. Previous work establishes that children tell lies for prosocial (rather than purely selfish reasons) in a global sense, but not whether they base their decisions on the likely effect on the other person’s emotional needs. First, concerning the ‘reverse rouge task’, children’s responses could be due to acquiescence or politeness not to say anything negative about another person. Moreover, the situation is not necessarily about the effect on the listener’s feelings and rather about what constitutes an appropriate photograph. Second, the ‘disappointing gift task’ might elicit false statements because gift giving is a highly familiar situation (which is one reason why researchers chose this task; Talwar *et al.*, 2007). Children might have learned the convention to generally say that they like a gift – just like how they learned to say ‘Thank you’ – which could be customary etiquette without requiring an understanding of the person’s feelings. However, if children do not understand the mental state consequences of their statements, it is not clear whether these behaviours should be labelled a white lie to begin with (Broomfield, Robinson, & Robinson, 2002). Third, the ‘art-rating task’ is likely a more novel situation. However, whether children take into account how their ratings might be related to the other person’s affect was not assessed, only whether they inflate their ratings when the person is present. It is possible that children have learned to make more favourable statements when a person asks them for their opinion about their creations or belongings. While this demonstrates flattery (as Fu and Lee argue), it does not require that children were attentive to the other person’s feelings. Taken together, these previous studies leave open whether children selectively tell white lies as a means to improve another person’s feelings.

To gain a better understanding of children’s reasoning about white lie telling, several studies have directly asked children to evaluate and justify lie telling in hypothetical scenarios. Specifically, Broomfield *et al.* (2002) presented children with story vignettes about the disappointing gift scenario and found that 9-year-olds, but not younger children predict that the protagonist will lie. Importantly, the children who predicted lie telling said the gift giver will believe the receiver liked the gift and be happy. Similar age effects were obtained by Gnepp and Hess (1986), with 8- to 10-year-olds predicting that a person would tell a lie in such scenarios to protect another person’s feeling. Moreover, Heyman, Sweet, and Lee (2009) interviewed 7- to 11-year-olds about story vignettes and found that older children were more likely to judge such lies as permissible and talked about the impact on the listener (such as ‘he didn’t want to hurt the other’). In sum, these studies indicate that during school age, children become increasingly better at reasoning about the positive consequences of a white lie for the recipient.

Last but not least, studies show that children’s reasoning is associated with their own actual white lie telling. Popliger *et al.* (2011) found that children who understood the merits of white lie telling in hypothetical contexts were also more likely to use it

themselves. Moreover, Xu *et al.* (2010) used the disappointing gift task and then asked children directly why they themselves had told a lie. White lie telling increased from 7 to 11 years of age. Most 11-year-olds reported that they had told a lie because they wanted to be polite or did not want to hurt the gift-giver's feelings. However, 7- and 9-year-olds were no more likely to give prosocial than non-prosocial reasons, such as avoiding negative consequences because the adult may be angry with them.

Taken together, these interview studies show that once children endorse white lie telling in the disappointing gift scenario during school age, they are able to reason about the positive effects on the recipient. However, one limitation of these studies is that they rely on children's ability to reflect upon people's mental states and express them verbally. Research with children and adults shows that individuals might not be able to verbalize their reasoning well – and even if they can express their thoughts with sophistication, they may be mistaken about the factors that are actually driving their behaviour (Cushman & Greene, 2011; Naito & Seki, 2009). Therefore, further evidence is needed that children use white lies to make others feel better.

In this study, we investigated whether children realize that they can use a white lie to make a person feel better. We adapted the 'art-rating test' from Fu, Xu, Cameron, Leyman, and Lee (2007) with the modification that rather than rating drawings on a continuous scale (which allows children to slightly 'bend' the truth), we used a binary response to force children to either tell the truth or lie. Our dependent measure was thus whether children designated the artist's drawing as good or bad. Our independent variable was whether an adult needed comforting because of the emotional valence that the 'artist' attached to her work (between subject). In the *Sad condition*, the artist expressed that she was sad about being bad at drawing and children were encouraged to make her feel better. In the *Neutral condition*, she said she did not care about her lack of skill and thus no intervention was necessary. Pilot testing suggested that younger children infrequently told white lies spontaneously, so that we included some prompting from the main experimenter to encourage children to make the person feel better. Our main research question was thus whether children realize that white telling is a good means to improve another person's mood when needed. If children consider the effects of their rating on the other person's emotional states, they should be more likely to make a false (positive) statement in the Sad condition than in the Neutral condition. This Neutral condition served as a baseline for children's tendency to evaluate other people's product positively out of pure politeness without any need to improve a person's mood.

Our second test was children's white lie telling after it was modelled by an adult. Specifically, an adult was asked to rate the artist's drawing and classified the bad drawing as bad while the child was watching. Then, while the artist was watching, the 'modeller' told the artist that her drawing was good. In two subsequent trials, it was again the child's turn to evaluate the artists' drawing. We included this modelling phase for two reasons. First, children might fail to tell a white lie not because of lack of comprehension, but because of a reluctance to violate the norm of truth telling, which might be viewed as more permissible if they see an adult do it. Secondly, we wanted to see whether children blindly mimic adult models or have some understanding of the effects on the recipient. Thus, while we expected that modelling would increase white lie telling overall (assessed in the Neutral condition), the important question was whether children adopt the behaviour selectively using it to an even greater extent when it had the potential to improve another person's feelings (assessed in the Sad condition). We predicted that children would tell white lies selectively when it could improve another person's feelings starting at 7–8 years of age and more reliably at 10–11 years of age. In addition, we explored

whether 5-year-olds would show signs of targeted white lie telling, as very few studies have tested this age group and evidence is inconclusive.

## Methods

### Participants

The final sample was  $N = 80$  children at three ages: 5-year-olds ( $n = 28$ ; 10 boys;  $M = 5.4$  years, range 5.0–5.9 years), 7- to 8-year-olds ( $n = 28$ ; 12 boys;  $M = 8.0$ , 7.0–8.9 years), and 10- to 11-year-olds ( $n = 24$ ; 12 boys;  $M = 10.8$ , 10.0–11.8 years). Seven additional children were excluded because of experimenter error (1) or because children did not sort the stimuli correctly at least once (6). Children came from mixed socio-economic backgrounds in a medium-sized city in the USA. Parents identified their children as white (70%), Asian (8%), unknown ethnicity or race (16%), or other (6%).

### Materials

The stimuli were six sets of five drawings of people, paper dolls, cars, flowers, mugs, or houses (Figure 1). In each set, two items were 'good', that is well drawn or well made, and three drawings were 'bad', that is poorly drawn or made. In each trial, two good and two bad drawings were used for the child to sort, and another bad drawing was used by the second experimenter (the 'artist') as the target drawing to be put in either of the two piles. Children were asked to sort the drawings into a blue and a red container. For each trial, we used a new pair of red and blue containers (different types of boxes, plates, and baskets).

Pilot testing with a different sample of 17 children at 4 to 10 years of age showed that 87% of the time children rated the 'good' drawings as good and the 'bad' drawings as bad.

During the test, the primary experimenter confirmed that children had sorted the drawings correctly into good and bad piles before putting them away. The four sets of stimuli used in experimental trials and the two sets of stimuli used for the modelling trials were counterbalanced across subjects. In two introduction trials, children were asked to sort four photographs of vases that were either broken or intact.

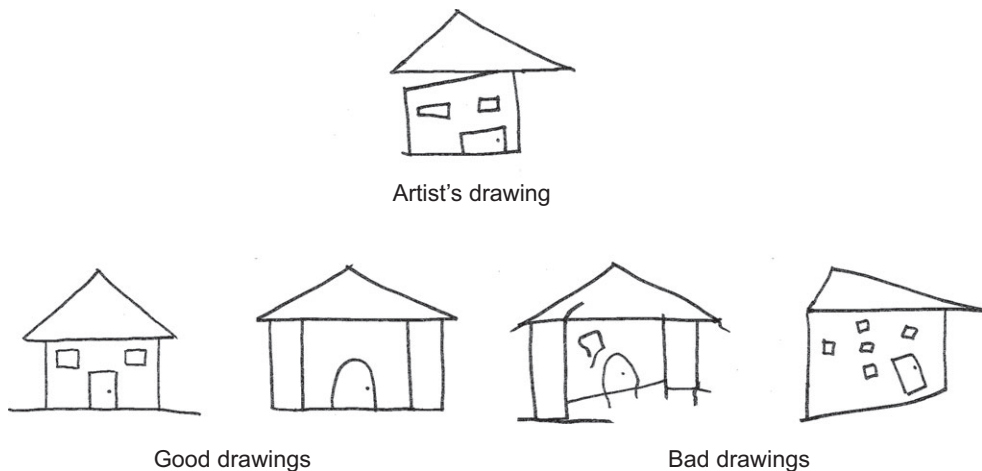


Figure 1. Sample stimuli: Houses.

### **Set-up**

Children were individually tested in an experimental room. Sessions were videotaped, and parents observed from an adjacent room on live video. At the beginning, the three experimenters (all female) briefly introduced themselves. During the session, Experimenter 1 (E1) explained the procedure to the child and brought the stimuli. Experimenter 2 (E2) played the role of the 'artist'. Experimenter 3 (E3) was the model.

### **Design and procedure**

The experiment comprised an *introduction*, two *test* trials, two *modelling* trials, and another two *test* trials. The introduction and the modelling trials were the same for all participants. The test phase differed between subjects, depending on whether they were tested in the Sad or the Neutral condition (randomly assigned). Our main dependent measure was whether children put the 'artist's' drawing into the 'good' or the 'bad' pile. In addition, at the end of the last trial, E1 asked children to explain their decision (as not to influence their further decision-making). Coding was done live and from video, with high inter-rater reliability (see Appendix S1).

#### *Introduction*

E1 showed the child four pictures of vases and said that they should be sorted into piles of good ones and bad ones. She explained that she was very busy, asking the child to do the task, and then left the room. When E1 came back, she double-checked what pile children had labelled as good and bad piles and put them away.

#### *Test trials (pre-modelling)*

E1 asked the child to sort a set of four drawings into good piles and bad piles and left the room. She re-entered together with E2 who held a drawing in her hand. E1 asked E2 how she was doing. In the *Sad condition*, E2 responded that she is sad because she worked hard at drawing, but is bad at it. E1 then quietly talked to the child, saying that maybe the child could do something to make E2 feel better. In the *Neutral condition*, E2 responded to E1's question by saying that she is doing well, not caring that she is bad at drawing. E1 then quietly talked to the child and said that maybe the child could talk to E2 for a minute.

Once E1 was out of the room, E2 showed her drawing to the child and asked in which pile the child was going to put it. Once the child had added it to one of the piles, E2 asked whether this was the good or the bad pile and left. E2 asked these questions in a neutral tone and never showed an affective response to the child's answer. E1 re-entered, checked how the drawings were sorted, and set up for the next trial.

The second trial was like the first, only that there was no exchange between E1 and E2 about how she was feeling. Instead, E1 popped her head in and in the *Sad condition* reminded the child to make E2 feel better and in the *Neutral condition* reminded the child to talk to E2 for a minute.

#### *Modelling trials*

Before trial 3, E3 entered and after a request from E1 sorted a set of drawings into good and bad piles. E3 then told the child that she is going to do something that makes E2 feel good. This was the same in both conditions. E2 subsequently entered the room with her drawing

that E3 then put in the good pile. In a second modelling trial, this procedure was repeated with a new set of stimuli. E3 then left.

#### Test trials (post-modelling)

We administered two more test trials that were the same as the second trial from the pre-modelling phase.

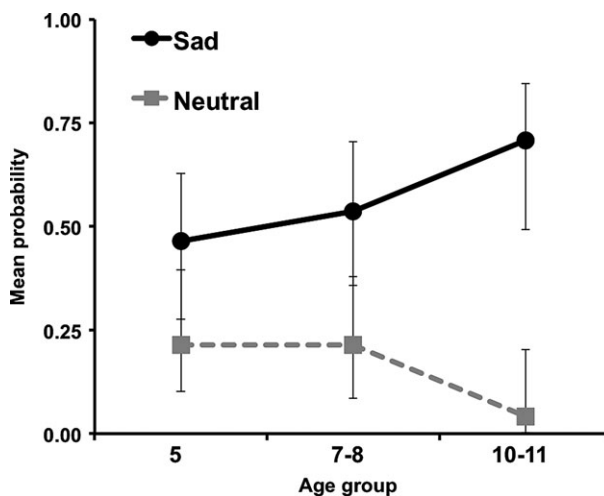
#### Verbal explanation question (post-testing)

At the end of the last trial, E1 said that she noticed where the child put E2's drawing and asked why the child put it in the good or the bad pile (depending on what the child had chosen).

## Results

In each trial, children received a score of 1 when they put the bad drawing in the good pile and a 0 if they put it in the bad pile. Figure 2 shows the mean probability of children sorting the drawing into the good pile. We analysed the data with multilevel logistic regressions in R (version 3.01, Bates, Maechler, & Bolker, 2013), with children's choices as binary response term using a binomial distribution, and included subject identity as a random effect. All reported analyses were additionally computed including gender, but as gender explained no additional variance in any of the model comparisons ( $p_s > .25$ ) and was not part of our hypotheses, we do not report it separately.

We were first interested in whether children would independently come up with the idea to tell a white lie without any modelling and thus focused on the first two trials of the session. A saturated model included subject ID as random effect, and trial number (1, 2) as fixed effect, as well as all main effects and interactions of the fixed factor condition (Sad, Neutral) and the covariate age group (5, 7, 10 years). We then conducted model



**Figure 2.** White lie telling in the first phase (pre-modelling). Mean probability of white lie telling as a function of age and condition. Error bars show 95% confidence intervals.



comparisons using likelihood ratio tests (LRT), by sequentially dropping terms and testing whether the more parsimonious models reduced the fit significantly. A first comparison showed that removing the three-way interaction of condition, age, and trial from the saturated model did not reduce fit, LRT  $\chi^2 = 4.43$ ,  $df = 3$ ,  $p = .22$ . This three-way interaction was thus dropped. Moreover, removing trial did not significantly reduce fit and was thus removed, LRT  $\chi^2 = 1.34$ ,  $df = 1$ ,  $p = .22$ . To assess a potential interaction of condition and age, we compared a model comprising condition, age, and condition by age with a model that included only the main effects of age and condition. As the latter model that included the interaction term had a significantly better fit, LRT  $\chi^2 = 4.46$ ,  $df = 1$ ,  $p < .05$ , we chose it as our final model (Table 1).

To unpack the interaction, we compared the two conditions separately by age group using Mann–Whitney  $U$ -tests (exact probabilities, two-tailed), with the rate of white lie telling across the two trials of the pre-modelling phase as dependent measure (Figure 2). Results showed that whereas 5-year-olds did not differentiate between conditions reliably,  $U(n = 28) = 68$ ,  $p = .17$ , both 7-year-olds,  $U(n = 28) = 56$ ,  $p < .05$ , and 10-year-olds,  $U(n = 24) = 20$ ,  $p < .01$ , were significantly more likely to lie in the Sad than in the Neutral condition. These analyses thus show an effect of age in that starting at 7 years of age, children chose to tell white lies selectively when an individual had expressed that she was affected by the quality of her artwork, but not when she did not care.

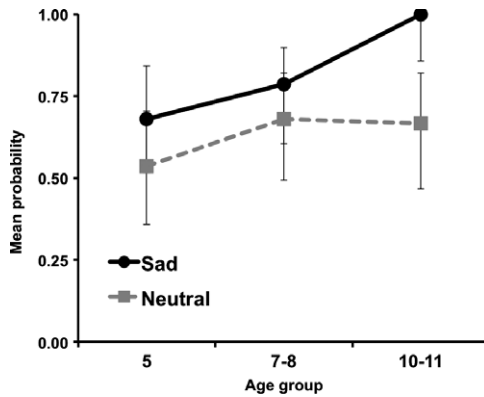
Analysed by individual, 57, 71, and 75 per cent of children at 5, 7–8, and 10–11 years of age, respectively, told at least one white lie during the first two trials of the Sad condition, reflecting their propensity to come up with white lie telling on their own. This compares to 29, 29, and 8 per cent of children at these three age groups in the Neutral condition. Thus, our main result was not due to a few children, but reflected across individuals.

In a next step, we analysed how children sorted the drawings after E3 had modelled white lie telling. Results are displayed in Figure 3. Not surprisingly, the overall rate of telling white lies increased after the modelling act, Wilcoxon sign rank test ( $N = 80$ ),  $Z = -5.56$ ,  $p < .0001$ . However, our research question was whether children differentiated between conditions and whether their choices varied by age. Using the same model-comparison approach as above, we found that there was again no main effect and no interaction with trial. There was also no age by condition interaction, but main effects of age and of condition. A model comprising age group and condition produced a

**Table 1.** Coefficients indicate the estimated effects of the predictors on the response term (yes = 1, no = 0). For the fixed factor condition, the level Sad is displayed as compared to the reference group Neutral

	$\beta$	SE
Model 1 (pre-modelling)		
Intercept	-0.61	3.26
Age group	-0.45	0.49
Condition (Sad)	-2.72	3.97
Age group $\times$ Condition (Sad)	1.00	0.58*
Model 2 (post-modelling)		
Intercept	-2.48	1.91
Age group	0.52	0.26*
Condition (Sad)	2.21	0.99*

Note. \* $p < .05$ .



**Figure 3.** White lie telling after witnessing a model (post-modelling). Mean probability of white lie telling as a function of age and condition. Error bars show 95% confidence intervals.

significantly better fit than a model without condition,  $LRT \chi^2 = 5.91, df = 1, p < .05$ . Similarly, removing age group from the model with condition and age group significantly reduced the fit,  $LRT \chi^2 = 5.26, df = 1, p < .05$ . We thus selected the model which is displayed in Table 1. These results show that older children were more likely to tell a white lie than younger children and, importantly, across all three age groups, children were more likely to tell a white lie in the Sad condition than in the Neutral condition.

Our last analysis concerned children’s verbal explanations of their decision in the last trial. Data from 77 children could be included. As shown in Table 2, children’s judgement varied with the decision where to place the artwork,  $\chi^2 = 11.3, df = 2, p < .005$ . Children most often justified their placing of the artwork in the bad pile with it being drawn badly, while the most frequent justification for putting it in the good pile was that it was good *and* bad or that they had a different reason. In fact, Table 3 shows that children almost always justified their decision with the quality of the artwork if they sorted it as bad, but

**Table 2.** Children’s justifications. Articulated basis for judgement as a function of children’s decision in the last trial. Numbers are percentages (and frequencies in parentheses)

Artwork sorted as	Articulated basis of judgement			Total
	Quality of artwork	Artist’s emotion	Other	
Bad	95 (19)	0 (0)	5 (1)	100 (20)
Good	54 (31)	35 (20)	11 (6)	100 (57)
Total	65 (50)	26 (20)	9 (7)	100 (77)

**Table 3.** Children’s justifications. Verbal evaluation of the artwork as part of their justifications, as a function of children’s decision in the last trial. Numbers are percentages (and frequencies in parentheses)

Artwork sorted as	Verbal evaluation of artwork			Total
	Good	Bad	Good and Bad or Other	
Bad	10 (2)	80 (16)	10 (2)	100 (20)
Good	35 (20)	12 (7)	53 (30)	100 (57)
Total	29 (22)	30 (23)	42 (32)	100 (77)



were less likely to do so if they had sorted it as good, now often referencing the artist's emotion,  $\chi^2 = 32.5$ ,  $df = 2$ ,  $p < .001$ . These associations were also apparent when looking at decisions across the whole session. When we correlated the rate of placing the drawing in the good pile (by averaging across the four trials) with children's verbal justification of either saying the drawing was *bad* (coded as 1) or not (coded as 0), we found a negative correlation, both overall,  $r_{\text{age controlled}}(n = 77; df = 74) = -.37$ ,  $p < .001$ , and when analysing the Sad condition separately,  $r_{\text{age controlled}}(n = 37; df = 34) = -.42$ ,  $p < .05$ . By contrast, sorting the artwork as good was positively correlated with children mentioning the *artist's emotion* (coded as 1) over *quality based* or *other* (coded as 0), both overall,  $r_{\text{age controlled}}(n = 77; df = 74) = .44$ ,  $p < .0001$ , and for the Sad condition,  $r_{\text{age controlled}}(n = 37; df = 34) = .38$ ,  $p < .05$ . Thus, children who told the artist that her drawing was good were also more likely to explain their decision with the artist's emotion, whereas children who told her the truth were more likely to talk about the quality of the drawing.

## Discussion

Children told a white lie to a person who needed cheering up, but had no hesitation to tell the blunt truth to a person who was neutral. This pattern was clear among the two oldest age groups between 7 and 11 years of age, who reliably told a white lie in the Sad over the Neutral condition. This differentiation between emotion conditions was present in the initial trials before a person had shown them how to tell a white lie. Moreover, children did not blindly copy an adult after observing how she told a lie. Rather, they were more likely to apply it when the recipient was sad than in a control in which the recipient was neutral. While this pattern of results increased in the older age groups, 5-year-olds also showed a dawning understanding of white lie telling. In particular, they lied slightly more often in the Sad condition than in the Neutral condition in trials premodelling, although they did not reliably distinguish between conditions, as did the older age groups. After an adult modelled white lie telling, 5-year-olds displayed a similar pattern as the older children, by using it more often in Sad condition than in the Neutral condition.

These results provide new insights about the sophistication of children's own white lie telling, as it indicates that this behaviour does not simply result from habitual politeness or a tendency to inflate their evaluations of other people's work when the person is present (which could explain the results by Fu *et al.*, 2007). Rather, children directly attend to the likely impact of their lie on another person's affective state by selectively telling a lie when in a context in which the other person is sad and prosocial action is needed, but not when she does not actually care about the referent. Interview studies focusing on children's justifications showed mixed results concerning the age at which children perceive white lies as serving a prosocial function, some studies suggesting that only by 9 years of age do children give prosocial rather than selfish reasons. To our knowledge, no interview studies had included 5-year-olds. Therefore, the current results show that by 7 years of age, and perhaps earlier, children have a practical understanding of the effect of white lie telling on others' emotion and use this knowledge appropriately.

Our results also indicated that patterns of white lie telling changed with age. One possibility is that this reflects a marked improvement of social cognition more generally. For example, white lie telling might require more than a recognition of psychological beliefs and emotions (Naito & Seki, 2009), as children must represent not only another person's psychological state based upon a behavioural cue or situation (a first-order

representation), but also how their presentation of a psychological state is represented by the social partner (a second-order representation). The child has to take the perspective of the audience to comprehend that their own true belief is opaque to the audience and can be concealed – and then choose an utterance that will result in the audience’s belief about the child’s belief that is more pleasing for the audience than knowledge about their actual true belief would be. Indeed, several studies have found a similar age-shift in children’s understanding of emotional display rules such as people making a happy face when actually feeling sad (Harris *et al.*, 1986), self-presentational behaviours to manipulate an audience’s evaluation of oneself (Aloise-Young, 1993; Banerjee & Yuill, 1999), and second-order false-belief reasoning (Sullivan, Zaitchik, & Tager-Flusberg, 1994). Some studies also find that children’s scores across these situations are associated, although not always consistently (Banerjee & Yuill, 1999; Hsu & Cheung, 2013). Therefore, future studies should assess whether children’s reasoning in these tasks is associated with their affect-based white lie telling.

Another possibility is that the age effect reflects a shift in social preferences. Specifically, children might come to value prosociality over veracity. This would be consistent with the finding that prosocially motivated behaviours steadily increase in childhood (Eisenberg, Fabes, & Spinrad, 2006) and a steep increase in children’s tendency to pay a cost to be prosocial and fair at around 7–8 years of age (Blake & McAuliffe, 2011). For example, when lying about a disappointing gift is costly, younger children at 4–6 years of age rarely told a white lie, whereas older children at age 10–12 pretended that they liked the gift at high rates even in the costly condition (Popliger *et al.*, 2011). This indicates that over development, children come to appreciate more how their behaviour affects the recipient, even at material costs to themselves. Thus, if children increasingly privilege politeness over material gain, it is plausible that they similarly prioritize another person’s mood over stating their true opinion.

One may be concerned that children actually changed their opinion of the drawing in the Sad condition, now perceiving the bad drawing as good. We do not believe that this is the case, for several reasons. First, we used drawings that were categorically good or bad, rather than differing only in degree. Pilot testing and our results from the Neutral condition showed that children shared this evaluation, and it seems implausible that our experimental manipulation radically distorted their aesthetic values. Second, children’s justifications were different for the two types of decisions. Most importantly, children’s decisions to tell the artist her drawing was good were positively correlated with justifications in terms of the artist’s emotion (rather than pondering the quality of the drawing). This correlation is not consistent with the idea that children focus only on the quality and changed their evaluation. It is, however, consistent with the interpretation that children were deliberately misinforming the artist about their actual opinion to change her affect.

One limitation of the current study is that an experimenter encouraged the child to do something that makes the other adult feel better. Moreover, for the second part of the experiment, an adult modelled white lie telling. Therefore, our study did not assess how many children would have engaged in white lie telling without any prompting. Thus, this study does not address whether children are spontaneously prosocial or conform to a request to be prosocial. However, our study targeted children’s realization that white telling is a good means to change another person’s affect. Thus, in the first two trials in which the first experimenter asked the child to cheer the other person up, children still had to come up with the idea that telling a white lie would have this effect. Children could have chosen many different means, but they came up with the solution to lie about the

quality of the other's drawing. For the second part of the experiment, children had seen how another person told a white lie and were thus given the idea. However, although their white lie telling was increased overall, they still showed some selectivity by telling a white lie more often in the Sad than in the Neutral condition. Thus, when children told white lies, they were not just mimicking adults or blindly follow a norm, but displayed an understanding of its effects on the listener's feelings.

Future research could investigate whether children who did not tell a white lie lacked the insight to use this means, still valued veracity higher, or were not prosocially inclined despite the prompting. It seems unlikely that children just did not care about the artist's mood because even younger children are generally inclined to act empathically at least when it comes at no personal cost. However, to determine this directly, future studies could assess whether children use a simpler, more conventional way of improving the other's mood and still fail to tell a white lie. Anecdotally, we observed that children sometimes tried to comfort the artist in some other way while still maintaining that the quality of the drawing was poor. For example, children said 'Some people like coloring outside the lines.', 'Keep practicing!', or one child even found a creative compromise by stating: 'It's not bad, it's modern!'

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### Supporting Information

The following supporting information may be found in the online edition of the article:

**Appendix S1.** Coding and reliability.