

The role of honesty and benevolence in children's judgments of trustworthiness

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Abstract

The present investigation examined the relation between honesty, benevolence, and trust in children. One hundred and eight 7-, 9-, and 11-year-olds were read four story types in which the character's honesty (honesty or dishonest) was crossed with their intentions (helping or harming). Children rated the story character's honesty, benevolence, and whether they trusted the character. Results indicated that 7- to 11-year-olds considered both honesty and benevolence when making trust judgments, and older children were more likely than younger children to trust helpful lie-tellers. Further, the relation between dishonesty and trust judgments was mediated by children's judgments of benevolence. These findings suggest that at least from 7 years onward, children have a nuanced understanding about the relationship between honesty and trust.

Keywords

benevolence, children, honesty, trust

Trust is the foundation upon which nearly all human institutions are built, be it family, community, business, or government. Trust enables and strengthens the bonds among individuals and mistrust weakens these bonds. Trust is fundamental to social adjustment (Rotenberg, Michalik, Eisenberg, & Betts, 2008), peer relations (Rotenberg et al, 2004), academic performance (Imber, 1973), and psychological health (Rotenberg, MacDonald, & King, 2004).

The adult literature has indicated that several major factors contribute significantly to interpersonal trust. One of the most important factors for developing trust is honesty (Bacon, 1999). A lack of honesty in the form of lying or deception not only damages trust (DePaulo & Kashy, 1998; DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996; Lewis, 1993), but also induces negative emotional reactions from social partners (Gordon & Miller, 2000; McCornack & Levine, 1990; Peterson, 1996; Saxe, 1991; Tyler, Feldman, & Reichert, 2006). Further, the impact of lying on trust can be long lasting: interpersonal trust may never fully recover even after the lie-teller makes amends and subsequently displays trustworthy behaviors consistently (Schweitzer, Hershey, & Bradlow, 2006). To date, the impact of lying on trust is unclear. Some work has suggested that children are able to forgive a lie/false statement if it is provided by a familiar informant (Corriveau & Harris, 2009a) or if it is followed by a period of accuracy (Scofield & Behrend, 2008).

The notion that honesty leads to trust and lying leads to mistrust is derived from a school of philosophical thought that posits honesty to be morally always right and lying to be morally always wrong. Throughout history, there has been intense debate among philosophers and theologians about the validity of this position. Like many other philosophical debates, there are numerous schools of thought on the issue that generally fall along a continuum. On one end of the continuum, philosophers such as Bok (1978), Kant (1949), and St. Augustine (1952) hold a Deontological view which focuses on intrinsic duties regarding treatment of others, and particularly regarding justice. In terms of lie-telling, the Deontological view

holds that truth-telling is intrinsically right whereas lying is intrinsically wrong. On the other end of the continuum, the Utilitarian perspective focuses on the "greater good" with an emphasis on the outcome of one's act. In terms of lie-telling, the Utilitarian perspective holds the belief that lying and its moral implications are context-dependent (Austin, 1962; Bentham, 1843; Mill, 1869; Sweetser, 1987). Modern Utilitarian theorists believe that the moral implications of honesty and lying are determined by social-cultural conventions. In some situations where social conventions prohibit and discourage falsehoods and expect interlocutors to adhere to the so-called Maxim of Quality (Grice, 1989: to inform, not misinform), untruthful statements indeed entail a negative moral value. In other situations (e.g., where social conventions call for politeness to spare another person's feelings), deliberate false statements are sanctioned and even promoted, thus taking on a positive moral valence.

In addition to honesty, factors that have been suggested to contribute to building trust include one's reliability, ability, integrity, social group membership, and benevolence (Birch, Vauthier, & Bloom, 2008; Corriveau & Harris, 2009a, 2009b; Harris, 2007;

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Jaswal, McKercher, & VanderBorgh, 2008; Kinzler, Corriveau, & Harris, 2011; Koenig, Clément, & Harris, 2004; Koenig & Harris, 2005; Koenig & Harris, 2008; Mascaro & Sperber, 2009; Mayer, Davis, & Schoorman, 1995; Nurmsoo & Robinson, 2009; Pasquini, Corriveau, Koenig, & Harris, 2007; Scofield & Behrend, 2008). Previous studies have demonstrated that young children make use of information about an informant's reliability, ability, and, recently, social group membership in assessing whether to trust him or her (Baier, 1986; Hosmer, 1995; Kinzler, Corriveau, & Harris, 2011; Mascaro & Sperber, 2009; Rousseau, Sitkin, Burt, & Camerer, 1998), suggesting that children increasingly understand the importance of both accuracy and social cues in making judgments about whether to trust someone. However, the influence of benevolence, or the extent to which the trustee is believed to have favorable intentions towards the trustor, on children's trust judgments of the trustee remains unexamined.

Empirical work in the last two decades has revealed that both adults and children (beginning around 7 years of age) in the West and East Asia tend to take the Utilitarian Perspective when giving moral evaluations of lies and truths told in different social contexts (e.g., Fu, Evans, Wang, & Lee, 2008; Fu, Lee, Cameron, & Xu, 2001; Fu, Xu, Cameron, Heyman, & Lee, 2007; Lee, Cameron, Xu, Fu, & Board, 1997; Lee, Xu, Fu, Cameron, & Chen, 2001). For example, from the preschool years onward, children agree that lying to conceal one's transgression is morally reprehensible and confessing it is laudable (e.g., Talwar, Lee, Bala, & Lindsay, 2002; Xu, Bao, Fu, Talwar, & Lee, 2010). However, both Western and Asian participants have a favorable view of lies told to spare another's feelings (e.g., Xu et al., 2010). When such prosocial lies are told the lie-teller's benevolence is placed in conflict with his or her honesty. Given that children tend to rate prosocial lying as acceptable (Bussey, 1999; Heyman, Sweet, & Lee, 2009; Lee et al., 2001; Peterson, Peterson, & Seeto, 1983; Strichartz & Burton, 1990) and even begin to tell prosocial lies themselves from the preschool years onward (Broomfield, Robinson, & Robinson, 2002; Talwar & Lee, 2002; Talwar, Murphy, & Lee, 2006; Xu et al., 2010), it appears as though with age children increasingly favor benevolence over honesty in both moral judgment and action.

Given that children take into account the motivation of the speaker when evaluating his or her lies, we hypothesize that such motivations also play an important role in mediating the relation between honesty and trust. We addressed this hypothesis in the present study among a sample of 7-, 9-, and 11-year-olds who were asked to rate a story character's honesty, benevolence, and trustworthiness. Four story types were created by crossing honesty with the outcome of either helping or harming the lie-recipient. The four story types included: (1) *helpful truth-teller*: telling a truth to be helpful, reflecting a trustee's benevolence and honesty, (2) *helpful lie-teller*: lying to be helpful, reflecting a trustee's benevolence and dishonesty, (3) *harmful truth-teller*: telling a truth to be harmful, reflecting a trustee's malevolence and honesty, (4) *harmful lie-teller*: telling a lie to be harmful, reflecting a trustee's malevolence and dishonesty. It was predicted that all children would trust the helpful truth-teller and distrust harmful lie-teller. This prediction was based on previous findings indicating that even 7-year-olds are able to differentiate lies from truths and make relevant moral evaluations (Bussey, 1999; Heyman et al., 2009; Lee et al., 1997, 2001). Developmental differences were predicted for children's trust judgments of the helpful lie-teller and harmful truth-teller based on previous findings of age-related differences in the evaluation of such lies (McAllister, 1995; Rempel, Holmes, & Zanna, 1985; Rotenberg et al., 2005). With increased age, children were expected to

increasingly trust the helpful lie-teller and distrust the harmful truth-teller. Finally, it was also predicted that benevolence would mediate the relation between honesty and trust.

Method

Participants

Participants in the study were 108 7- to 11-year-olds from Beijing, China. Thirteen children were excluded: three as a result of inattention during the experiment, and 10 due to failure to pass the control questions. The final sample included 31 7-year-olds ($M = 7.26$ years, $SD = 0.41$; 15 males), 32 9-year-olds ($M = 9.23$ years, $SD = 0.52$; 16 males), and 32 11-year-olds ($M = 11.26$ years, $SD = 0.52$; 16 males). All children were Han Chinese recruited from two elementary schools in Beijing and were from middle-socioeconomic status (SES) families in China. Informed consent was obtained from all children's parents or legal guardians prior to participation in the study.

Materials and procedures

Children were tested individually in a quiet room at school. Prior to beginning the test phase, all children were trained to use a 4-point sureness scale illustrated by four circles with increasing size representing: "not sure," "a little sure," "very sure," and "very very sure." Once it was determined that children could accurately use the sureness scale, the experimenter began reading the trust stories. Given that the four story types (helpful truth-teller, helpful liar, harmful truth-teller, and harmful liar) could be counterbalanced to create a total of 24 different orders, eight random orders were selected to reduce the number of possible orders. Children were randomly assigned to one of eight random orders of the four story types. In each story, the character made a statement to a friend. Statements varied in terms of whether they were the truth or a lie and in terms of whether they were helpful or harmful. Children were then asked to label the story character's behaviors in terms of honesty, benevolence, and finally asked to make a trust judgment. Children's evaluations of the story characters were made across three phases as follows:

Phase 1: Initial impression of trustee. For each story type, children were read two impression-formation stories that described the trustee's behavior towards two different peers (see Appendix A). Simple pictures were used to help with comprehension of the story and maintain attention. Given that previous studies have found that children tend to trust same-sex peers more than opposite-sex peers (Rotenberg & Morgan, 1995), the gender of the story character was matched to the gender of the child.

For example, when introducing the helpful lie-teller, the following two stories were read:

The lending story. One day in English class, Xiaoyuan forgot to bring his pencil, so he asked Chenchen: "Do you have a spare pencil? Can you lend me one?" Chenchen only had one pencil, but in order to help Xiaoyuan, Chenchen answered: "I have two pencils. Here, you can borrow this one."

The children were then asked series of control questions to ensure their understanding: "How many pencils did Chenchen have?", "When Xiaoyuan asked Chenchen to lend him a pencil, what did Chenchen say?" (Comprehension questions), followed

by “Do you think Chenchen is telling the truth or a lie, or something else?” (Lexical judgment question), and finally children were asked: “Do you think Chenchen wanted to be helpful?” (Motivation judgment question). The children were then read a second story as follows:

The clothes story. A week later, Chenchen met Xiaobo on the playground. Xiaobo was wearing a new pair of shoes. He asked Chenchen: “What do you think of my new shoes?” Chenchen thought the shoes were very ugly, but in order avoid making Xiaobo feel bad, Chenchen said: “I think your shoes look great.”

Again, the children were required to answer Comprehension, Lexical judgment, and Motivation judgment control questions. The children were excluded from the experiment if they could not pass the control questions for both stories.

Phase 2: Honesty and benevolence judgments. After completing the trustee introduction stories and questions, children were asked to make honesty- and benevolence-judgments of the trustee. For the honesty-judgments, children were shown three cards with the words honest, dishonest, and a square (meaning “not sure”), respectively, on them. The children’s understandings of the words were checked and if it was not clear that the children understood, the experimenter explained them. The children were asked: “Do you think [trustee’s name] is honest or dishonest, or something else?” The children then rated the degree of honesty/dishonesty (“Was he/she a little honest/dishonest or very honest/dishonest?”) using an honesty scale ([★] *a little honest* and [★★] *very honest* or [×] *a little dishonest* and [××] *very dishonest*). For example, if children identified the trustee as honest, they would be asked to rate whether the trustee was a little honest or very honest. In contrast, if children identified the trustee as dishonest, they would be asked to rate whether the trustee was a little dishonest or very dishonest. Children received an honesty rating score that ranged from -2 to +2 (-2 = *very dishonest*, -1 = *a little dishonest*, 0 = *not sure*, 1 = *a little honest*, and 2 = *very honest*).

Next, the children labeled the story character in terms of benevolence the same way they did for the honesty judgments. After indicating whether they thought the trustee was either nice, mean, or something else, the children rated the degree of benevolence/mal-evidence using a nice-mean scale ([★] *a little nice* and [★★] *very nice* or [×] *a little mean* and [××] *very mean*). These responses were coded on a scale that ranged from -2 to +2 (-2 = *very mean*, -1 = *a little mean*, 0 = *not sure*, 1 = *a little nice*, and 2 = *very nice*).

The order of honesty and benevolence ratings was counterbalanced between participants. A card representing the judgments, along with a card representing the trustee, was placed in front of the child to help them remember their judgments in the subsequent test phase.

Phase 3: Trust judgments. The children were asked to make trust judgments of the character in three different situations that have been widely used to assess trust judgments: secret-keeping (Rempel et al., 1985; Rotenberg et al., 2005), promise-fulfillment (Rempel et al., 1985; Rotenberg et al., 2005), and information-seeking (Cum-mings & Bromiley, 1996; McAllister, 1995). For example, in the secret-keeping situation, children were asked to imagine they had a classmate named Chenchen, and were told: “One day you are not feeling well, so you do not have any breakfast. Instead you bring some bread to school. You ask Chenchen not to tell anyone about it because your school does not allow you to bring food. Do you

Table 1. Mean (SD) honesty and benevolence ratings by story type and age group.

		Helpful truth-teller	Helpful lie-teller	Harmful truth-teller	Harmful lie-teller
Benevolence ratings	7 years	1.74 (0.51)	1.26 (1.09)	-0.84 (1.27)	-1.61 (0.50)
	9 years	1.53 (0.67)	1.81 (0.40)	-1.00 (1.14)	-1.72 (0.46)
	11 years	1.63 (0.55)	1.91 (0.39)	-1.63 (0.55)	-1.56 (0.62)
	Total	1.63 (0.58)	1.66 (0.75)	-1.16 (1.08)	-1.63 (0.53)
Honesty ratings	7 years	1.81 (0.40)	-1.13 (0.67)	1.32 (0.94)	-1.71 (0.46)
	9 years	1.88 (0.42)	-0.84 (0.95)	1.44 (0.98)	-1.78 (0.42)
	11 years	1.88 (0.42)	-0.25 (1.30)	1.19 (1.00)	-1.63 (0.83)
	Total	1.85 (0.41)	-0.74 (1.06)	1.32 (0.97)	-1.71 (0.60)

think Chenchen will keep this secret for you?” (Trust judgment question). See Appendix B for a complete list of the situations.

After making each trust judgment, the children were asked: “How sure are you?” (Sureness question) using the 4-point sureness scale mentioned above to assess children’s confidence about their judgment. A trust score was computed based on responses to the trust judgment and sureness question for each situation. Possible scores ranged from -4 to 4 (-4 *very very sure of distrust*, -3 *very sure of distrust*, -2 *a little sure of distrust*, -1 *unsure of distrust*, 0 *neither trust nor distrust*, 1 *unsure of trust*, 2 *a little sure of trust*, 3 *very sure of trust*, and 4 *very very sure of trust*). The entire procedure took approximately 50 minutes to complete and was divided into two sessions across 2 successive days.

Results

Preliminary analyses revealed no significant effects of gender or order. Thus, the data for both genders and all orders were combined for the subsequent analyses. We began by examining whether children identified the story character’s honesty and benevolence. Next we assessed how honesty and intention (the four story types) influenced children’s trust evaluations as well as potential age differences in trust evaluations. Finally, we examined whether children’s benevolence ratings mediated the relation between honesty and trust using a mediation analysis.

Children’s honesty judgments

We began by examining whether children’s evaluations of honesty varied by the four story types. First, a 4 (story type: helpful truth-teller, helpful lie-teller, harmful truth-teller, harmful lie-teller) × 3 (age group) repeated-measures analysis of variance (ANOVA) was conducted on children’s honesty ratings (see Table 1 for means and standard deviations). A main effect of story type was found, $F(3, 276) = 440.50, p < .05, \eta^2 = .83$, which was qualified by an interaction with age, $F(6, 276) = 3.01, p < .05, \eta^2 = .06$.

To further examine this interaction between story type and age, a series of post-hoc univariate ANOVAs were performed on children’s

Table 2. Mean (SD) total trust Z scores by age.

Story type	Situation		
	7 years	9 years	11 years
Helpful truth-teller	-.19 (.18)	.19 (.06)	.003 (.10)
Helpful lie-teller	-.47 (.96)	.02 (.67)	.47 (.27)
Harmful truth-teller	.27 (.73)	-.06 (.74)	-.20 (.74)
Harmful lie-teller	.10 (.15)	-.04 (.14)	-.06 (.14)

honesty scores by age for each of the story types. A significant main effect of age was found for the *helpful lie-teller* story, $F(2, 92) = 6.24, p < .05, \eta^2 = .83$. Post hoc *t* test (LSD, $\alpha = .05$) indicated that 11-year-olds ($M = -.25, SD = 1.30$) rated the story character as significantly less dishonest than 7-year-olds ($M = -1.13, SD = .67$). No significant differences were found between the 9-year-olds ($M = -.84, SD = .95$) and either of the age groups. No significant main effects of age were found for honesty ratings of the *helpful truth-teller*, *harmful truth-teller* or *harmful lie-teller* stories. Across age groups children rated the helpful truth-teller ($M = 1.85, SD = .41$), and the harmful truth-teller ($M = 1.32, SD = .97$) as honest and the harmful lie-teller as dishonest ($M = -1.71, SD = .60$). Overall, these results indicate that all children were able to successfully identify the honesty of the character's statement.

Children's benevolence judgments

Next, we examined whether children's evaluations of benevolence varied by the four story types. A 4 (story type) \times 3 (age group) repeated-measures ANOVA was conducted on children's benevolence ratings (see Table 1 for means and standard deviations). Results revealed a main effect of story type, $F(3, 276) = 536.61, p < .05, \eta^2 = 0.85$, which was again qualified by an interaction with age, $F(6, 276) = 5.86, p < .05, \eta^2 = 0.11$.

To further examine this interaction, a series of post-hoc univariate ANOVAs were performed on children's benevolence scores by age for each of the story types (LSD, $\alpha = .05$). A significant main effect of age was found for the *helpful lie-teller* story, $F(2, 92) = 7.77, p < .05, \eta^2 = .15$. Post hoc *t* test (LSD, $\alpha = .05$) indicated that 7-year-olds ($M = 1.26, SD = 1.09$) rated the story character as significantly less nice than did 9-year-olds ($M = 1.81, SD = .40$) and 11-year-olds ($M = 1.91, SD = .39$). No significant age differences were found between 9- and 11-year-olds. Additionally, a main effect of age was found for children's benevolence ratings of the *harmful truth-teller*, $F(2, 92) = 5.15, p < .05, \eta^2 = .10$. Post hoc *t* test (LSD, $\alpha = .05$) indicated that 7- ($M = -.84, SD = 1.27$) and 9-year-olds ($M = -1.00, SD = 1.14$) rated the harmful truth-teller as significantly less mean than 11-year-olds ($M = -1.63, SD = .55$). No significant differences were found between 7- and 9-year-olds. There were no significant main effects of age for benevolence ratings in the *helpful truth-teller* or *harmful lie-teller* stories. Across age groups, children rated the helpful truth-teller as benevolent ($M = 1.63, SD = .58$) and the harmful lie-teller as malevolent ($M = -1.63, SD = .53$).

These findings indicate that although there were age differences in how nice or mean children rated the story character, children in all

age groups successfully identified the helpful story characters as nice and the harmful story characters as mean.

Children's trust evaluations

Next, we examined whether children's trust evaluations varied by story type. Pearson correlations revealed that trust scores were highly correlated across the three situations, $r_s > .26, p < .05$, with the exception of information-seeking and secret-keeping in the helpful truth-teller situation, $r(94) = .09, p = .38$ (see Table 2 for means and standard deviations). Due to the high correlation between situations, Z scores were created for all of the participants' trust scores for each of the situations. Z scores were then averaged across the three situations (secret-keeping, promise-fulfillment, and information-seeking) to create an average trust score for each of the four story types (helpful truth-teller, helpful lie-teller, harmful truth-teller, harmful lie-teller).

A repeated-measures ANOVA was performed with story type (helpful truth-teller, helpful lie-teller, harmful truth-teller, harmful lie-teller) as the repeated measure, age group (7, 9, 11) as the between-subject variable, and trust scores as the dependant variable. Results revealed a significant interaction between story type and age, $F(6, 273) = 7.39, p < .05, \eta^2 = .14$.

To explore the interaction between story type and age, a series of univariate ANOVAs were conducted on children's trust scores by age group for each story type. A significant main effect of age was found for the *helpful lie-teller* story, $F(2, 92) = 14.48, p < .05, \eta^2 = .24$. Post hoc *t* test (LSD, $\alpha = .05$) indicated that all age groups were significantly different from one another. Specifically, as age increased children were significantly more likely to trust the character in the helpful lie-teller story ($M_s = -.47, -.02, .47, SD_s = .96, .67, .27$, for 7-, 9-, and 11-year-olds respectively). Significant age differences were also found for the *harmful truth-teller* story, $F(2, 92) = 3.41, p < .05, \eta^2 = .07$. Post hoc *t* test (LSD, $\alpha = .05$) indicated that 11-year-olds ($M = -.20, SD = .74$) rated the character in the harmful truth-teller story as significantly more untrustworthy than 7-year-olds ($M = .27, SD = .73$). No significant differences were found between the 9-year-olds ($M = -.06, SD = .74$) and 7- or 11-year-olds. No significant age differences were found for the *helpful truth-teller* and *harmful lie-teller* stories.

These findings indicate that when the intentions of the story character were in conflict with the honesty of their actions, developmental differences emerged in children's trust evaluations. Specifically, younger children appeared to make judgments based on the story-character's honesty whereas older children were more influenced by the intentions of the story character. However, when honesty and intentions were congruent (e.g., helpful truth-teller and harmful lie-teller), the children consistently rated the trustworthiness of the character across all three age groups.

Does benevolence mediate the relation between honesty and trust?

Next, we examined whether children's benevolence ratings mediated the relation between honesty and trust (see Figure 1). First, to examine the association between honesty, benevolence, and trust ratings, correlations were conducted for each of the four story types (see Table 3). Significant associations between these three variables were found for the *helpful lie-teller* and *harmful lie-teller* story types. Thus, the necessary conditions to examine possible mediation processes were

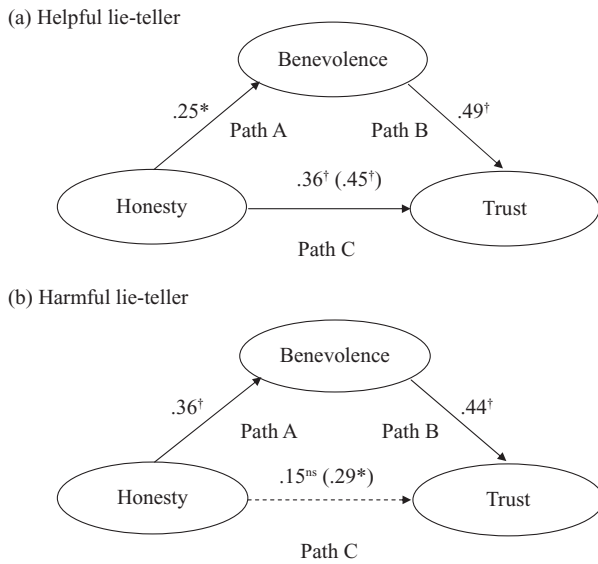


Figure 1. (a) The mediating effect of benevolence and the relation between honesty and trust for the helpful lie-teller story; (b) The mediating effect of benevolence and the relation between honesty and trust for the harmful lie-teller story a) Helpful lie-teller b) Harmful lie-teller.

found for the lie-telling stories (*helpful lie-teller* and *harmful lie-teller*) but not the truth-telling stories (*helpful truth-teller* or *harmful truth-teller* story types). Mediation analyses were completed for the harmful and helpful lie-teller story types. To reduce multicollinearity (Aiken & West, 1991), z scores were created for the predictor variables and used in the following analyses.

Next, mediation analyses were performed for each of the story types according to Baron and Kenny’s (1986) procedure. First, a linear regression was performed with children’s trust scores as the predicted variable and honesty scores as the predictor to show a significant association between the dependant and independent variable (path C). Second, a linear regression was performed with children’s benevolence scores as the predicted variable and honesty scores as the predictor to show a significant association between the mediator and independent variable (path A). Finally, a linear regression was completed with children’s trust scores as the predicted variable and benevolence scores as the predictor to show a significant association between the dependent variable and mediator variable (path B).

Helpful lie-teller story. To test path C, a linear regression with trust as the predicted and honesty as the predictor variable was performed. The model was significant $F(1, 93) = 24.14, R^2 = .21, p < .001$. Results suggest that as honesty ratings increased children were more likely to trust the story character ($B = .45, SE b = .21, B = 1.05, p < .001$). The second linear regression was performed to test path A with honesty as the predictor and benevolence as the predicted variable. The model was significant, $F(1, 93) = 5.93, R^2 = .06, p = .017$, indicating a positive relation between honesty and benevolence ratings ($B = .25, SE b = .10, B = .25, p = .017$). Next, a linear regression was performed to test path B with benevolence as the predictor and trust as the predicted variable. Again, the model was significant, $F(1, 93) = 28.49, R^2 = .24, p < .001$, indicating that as benevolence ratings increased children were more likely to trust the story character ($B = .49, SE b = .07, B = .39, p < .001$).

Table 3. Correlations between honesty, benevolence, and trust by story type.

Story type	Rating	1	2	3
Helpful truth-teller	1. Honesty	–		
	2. Benevolence	0.04	–	
	3. Trust	0.14	–0.12	–
Helpful lie-teller	1. Honesty	–		
	2. Benevolence	.25*	–	
	3. Trust	.45**	.49**	–
Harmful truth-teller	1. Honesty	–		
	2. Benevolence	–0.14	–	
	3. Trust	.31*	0.18	–
Harmful lie-teller	1. Honesty	–		
	2. Benevolence	.36*	–	
	3. Trust	.29**	.44**	–

* correlation is significant at $p < .05$; ** correlation is significant at $p < .01$.

Since the regression analyses suggest that the effect of honesty ratings on trust may be mediated by benevolence ratings (as indicated by a significant relation between honesty and trust, a significant relation between honesty and benevolence ratings, and a significant relation between benevolence ratings and trust), the nature of this mediation pathway was examined. With trust as the predicted variable, benevolence ratings were entered on the first step followed by honesty ratings on the second step. The first step was significant, $F(1, 93) = 28.49, R^2 = .24, p < .001$, and after controlling for benevolence scores the second step with honesty was also significant, $\Delta F(1, 92) = 17.05, \Delta R^2 = .12, p < .001$. Both benevolence ($B = .40, SE b = .20, B = .92, p < .001$) and honesty remain significant in the model ($B = .36, SE b = .20, B = .83, p < .001$). However, the standardized regression coefficient of honesty drops from .45 to .36 when benevolence is controlled.

To test whether the indirect effect of honesty on trust via benevolence is significantly different from zero, Sobel’s test was used (Baron & Kenny, 1986). The Sobel test for mediation revealed a Z score of 2.22 ($p = .027$), indicating that the mediating effect is significantly different from zero and that benevolence accounted for a significant amount of common variance shared between honesty and trust.

Harmful lie-teller story. To test path C, a linear regression was performed with trust as the predicted and honesty as the predictor variable. The model was significant $F(1, 93) = 8.26, R^2 = .08, p = .005$. Results suggest that as honesty ratings increased children were more likely to trust the story character ($B = .29, SE b = .22, B = .63, p = .005$). The second linear regression examined path A with honesty as the predictor and benevolence as the predicted variable. The model was significant, $F(1, 93) = 13.84, R^2 = .13, p < .001$, indicating a positive relation between honesty and benevolence ratings ($B = .36, SE b = .10, B = .36, p < .001$). Next, a linear regression was performed to test path B with benevolence as the predictor and trust as the predicted variable. Again, the model was significant, $F(1, 93) = 22.46, R^2 = .19, p < .001$, indicating that as benevolence ratings increased, children were more likely to trust the story character ($B = .44, SE b = .21, B = .91, p < .001$).

Since the regression analyses suggest that the effect of honesty ratings on trust may be mediated by benevolence ratings, the nature of this mediation pathway was examined. With trust as the predicted variable, benevolence ratings were entered on the first step, followed by honesty ratings on the second step. The first step was significant, $F(1, 93) = 22.46, R^2 = .19, p < .001$; however, after controlling for benevolence scores, the second step with honesty was not significant, $\Delta F(1, 92) = 2.16, \Delta R^2 = .02, p = .15$. Benevolence remained significant ($B = .39, SE b = .22, B = .86, p < .001$) but honesty loses significance in the model ($B = .15, SE b = .22, B = .32, p < .001$). The standardized regression coefficient of honesty drops from .29 to .15 when benevolence is controlled. The Sobel test for mediation revealed a Z score of 2.92 ($p < .001$), indicating that the mediating effect is significantly different from zero and that benevolence accounted for a significant amount of common variance shared between honesty and trust.

Discussion

The present investigation examined how children evaluate the honesty, benevolence, and trust of story characters who lie and of story characters who tell the truth. Of interest is whether children's evaluations of a person's honesty and benevolence affect their inclinations to trust the person, and how the relationships among the three constructs vary as a function of age and of the motivations of speakers.

Children in all age groups identified the helpful truth-teller as benevolent and honest and the harmful lie-teller as malevolent and dishonest. However, there were age differences in children's judgments when honesty and benevolence were in conflict with one another. Specifically, with increased age, the children judged the helpful lie-teller as more benevolent and as less honest, and they judged the harmful lie-teller as more malevolent. Additionally, trust judgments, like honesty and benevolence ratings, only showed significant age effects when honesty and benevolence are pitted against each other. When presented with conflicts between these characteristics, children weighed benevolence to a greater extent with age. This shift towards prioritizing benevolence into early adolescence may be a result of an increased prioritization of kindness in friendships in late childhood and early adolescence (Clark & Bittle, 1992).

Consistent with our predictions, honesty was significantly related to children's trust evaluations through the mediating effects of benevolence ratings. This pattern was especially evident for the lie-telling stories (helpful lie-teller and harmful lie-teller). In these contexts of deception, the motivation behind the statement (benevolent or malevolent) mediated the influence of honesty on children's judgments of whether to trust the story character. When the lie-teller had a harmful intention, the mediation of malevolence on the relation between honesty and trust was full. However, when the lie-teller had a helpful intention, the relation between honesty and trust is both direct and through the mediation of benevolence judgments. These findings support the utilitarian perspective that treats the moral implications of lying as context-dependent (Austin, 1962; Bentham, 1843; Mill, 1869; Sweetser, 1987). Thus, the negative impact of dishonest statements on trust in interpersonal relationships may be buffered by the motivations of the lie-teller (to be kind vs. to harm another).

While the relation between lie-telling and trust was found to be significantly mediated by the lie-tellers motivation, the relation between truth-telling and trust was not found to be significantly related to motivation. One possible explanation for these

different relationships is that the relation between truth-telling and trust is stable and does not change depending on the motivation of the speaker. In contrast, as mentioned above, the context or motivation of a lie determines how or whether it influences one's trust.

The present research also points to the importance of extending the examination of trust beyond the boundaries that have been the focus of recent research (Harris, 2007; Heyman, 2008). For example, it has well been established that preschool children use prior history of accuracy when assessing trust (Birch et al., 2008; Corriveau & Harris, 2009b; Harris, 2007; Jaswal & Neely, 2006; Koenig & Harris, 2005). The present investigation suggests that children do not solely depend on one's prior history of providing accurate or inaccurate information when deciding whether someone is trustworthy. Instead, children appear to weigh some types of truths and falsehoods more heavily than others, especially if they provide information about a source's intent. In particular, as children develop, they appear to give increasingly greater weight to cues that relate to whether the source is a benevolent person. Future studies are required to look at a wider developmental picture. It is possible that younger children begin by favoring a deontological view of lie-telling during the preschool years and solely value honesty over dishonesty when making trust judgments, and then develop a more utilitarian perspective by middle childhood in which the social context and the source's intentions become important considerations.

Future studies using experimental behavioral methods are needed to examine whether children's scenario evaluations of trust will generalize to their actual trust behaviors. Previous studies suggest that they will. This research has documented that children's moral evaluations of prosocial lies and lies told for the collective good are predictive of the likelihood that they will actually tell these kinds of lies (Fu et al., 2008; Xu et al., 2010; see also Talwar, Lee, Bala et al., 2002).

Because the present study only included Chinese children, future research is also needed to examine how results will generalize to other populations, including other Eastern as well as Western populations. Although recent studies suggest that Eastern and Western children evaluate antisocial (Fu et al., 2007; Lee et al., 1997) and prosocial white lies in highly similar ways (Xu et al., 2010), the greater focus on saving face in the East and on protecting the feelings of others in the West (Xu et al., 2010) suggests that there may be cross-cultural differences. In particular, given the scenarios presented in the present investigation, North-American children may prioritize truthfulness over benevolence. Furthermore, Japanese children may hold an even greater concern for benevolence over truthfulness than Chinese children due to their strong emphasis on the symbiotic harmony in relationships between the self and other (Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000). It is also possible that any cultural differences in reasoning about honesty and trust may interact with the motivation for telling the truth or a lie. Consistent with this possibility, previous studies have demonstrated cross-cultural differences between North America and China in the moral evaluation of lies based on the context of the lie (e.g., Canadian children rate prosocial lies more positively than Chinese children and Chinese children rate lies told to be modest more positively than Canadian children, see Lee et al., 1997, 2001).

Overall, the present investigation demonstrates that honesty is not the only factor that children consider when they make judgments about whether to trust someone. Rather, they value both honesty and

benevolence when making such judgments. Thus, the present findings suggest that at least from 7 years of age onwards, children already eschew the Deontological view regarding honesty and its relation to trust. Rather, with increased age they have begun to develop a nuanced, utilitarian view about the relationship between honesty and trust whereby assessments of an individual's trustworthiness take into account the social contexts in which interactions occur.

Appendix A

Impression-formation story (boys' version)

Helpful truth-teller.

- *The lending story*: One day in Art class, Xiaojun forgot to bring his color-pencil, so he asked Qiqi: "Do you have a spare color-pencil? Can you lend me one?" Qiqi had two color-pencils. In order to help Xiaojun, Qiqi answered: "I have two color-pencils. Here, you can borrow this one."
- *The clothes story*: A week later, Qiqi met Xiaoshan on the way to school. Xiaoshan was wearing a new hat. He asked Qiqi: "What do you think of my new hat?" Qiqi thought the new hat was very ugly-looking. Qiqi decided to ask Xiaoshan to change for another one, if not, Xiaoshan would be teased by his classmates. So Qiqi said: "I think your new hat looks very ugly."

Helpful liar.

- *The lending story*: One day in English class, Xiaoyuan forgot to bring his pencil, so he asked Chenchen: "Do you have a spare pencil? Can you lend me one?" Chenchen only had one pencil, but in order to help Xiaoyuan, Chenchen answered: "I have two pencils. Here, you can borrow this one."
- *The clothes story*: A week later, Chenchen met Xiaobo on the playground. Xiaobo was wearing a new pair of shoes. He asked Chenchen: "What do you think of my new pair of shoes?" Chenchen thought the shoes were very ugly-looking, but in order not to make Xiaobo feel bad, Chenchen said: "I think your shoes look great."

Harmful truth-teller.

- *The lending story*: One day in Chinese class, Xiaozhi forgot to bring his eraser, so he asked Mingming: "Do you have a spare eraser? Can you lend me one?" Mingming only had one eraser, and he did not want to help Xiaozhi. So Mingming answered: "I have only one eraser. I could not lend you any."
- *The clothes story*: A week later, Mingming met Xiaoyong on the way back home from school. Xiaoyong was wearing a new scarf. He asked Mingming: "What do you think of my new scarf?" Mingming thought the scarf was very ugly-looking, and he decided to tease Xiaoyong to make him feel bad. So Mingming said: "I think your new scarf looks very ugly."

Harmful liar.

- *The lending story*: One day in Math class, Xiaogang forgot to bring his ruler, so he asked Yangyang: "Do you have a spare ruler? Can you lend me one?" Yangyang had two rulers, but he did not want to help Xiaogang. So Yangyang answered: "I have only one ruler. I could not lend you any."

- *The clothes story*: One week later, Yangyang met Xiaofeng in the classroom. Xiaofeng was wearing a new coat. He asked Yangyang: "What do you think of my new coat?" Yangyang thought the new coat looked great, but he wanted to tease Xiaofeng to make him feel bad. So Yangyang said: "I think your new coat looks very ugly."

Appendix B

Trust-measuring situations

Secret-keeping

One day you do not feel well, so you do not have any breakfast. Instead you bring some bread to school. You ask Chenchen not to tell anyone about it because your school does not allow you to bring food. Do you think Chenchen will keep this secret for you?

Promise-fulfillment

A new game will be released soon. You and Chenchen both want to play with it very much. Chenchen promises you that once he buys this game he will let you play with it first. The next day, you see Chenchen has the game with him. Do you think Chenchen will let you play first as he has promised?

Information-seeking

You have prepared a drawing to participate in an art contest. You want others to give you their opinions about your drawing. You see Chenchen in the classroom. You ask him about what he thinks of your drawing. Do you think Chenchen will tell you his true opinion of your drawing?

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