

Trust in testimony about strangers: Young children prefer reliable informants who make positive attributions.

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Abstract:

Young children have been described as critical consumers of information, particularly in the domain of language learning. Indeed, children are more likely to learn novel words from people with accurate histories of object labeling than with inaccurate ones. But what happens when informant testimony conflicts with a tendency to see the world in a particular way? In impression formation, children exhibit a positivity bias in personality judgments. This study examined whether 3- to 7-year-olds would accept reliable testimony about a stranger's personality that conflicted with a putative positivity bias (i.e., a negative trait attribution). Overall, participants accepted testimony from reliable informants more often than expected by chance, although they were significantly more likely to do so when the information was positive than when it was negative. These findings indicate that in addition to the reliability status of informants, information processing biases have a substantial impact on children's use of informant testimony to learn about the social world

Keywords: social perception | informants | credibility | personality judgements | trust | positivity bias | child psychology | psychology | experimental psychology

Article:

Introduction

Consider how often you rely on a trustworthy person to acquire information about the strangers that you will encounter in the future—the blind date that you will meet this evening, the potential employer who will interview you, or the people with whom you will be seated at a wedding reception. The ability to draw on others' knowledge in situations where we are ignorant about something is a topic of tremendous interest in the developmental literature, particularly during early to middle childhood (e.g., Birch et al., 2008, Jaswal and Neely, 2006 and Koenig et al.,

2004). Children obtain much of their world knowledge by relying on others, and learning to do so discriminately is an essential skill for understanding the world around them (Harris, 2007).

At an early age, children are critical consumers of information from outside sources, particularly in language learning (see Harris, 2007). Even toddlers reject incorrect labels for objects (Pea, 1982). Preschoolers are more likely to accept novel word labels from confident than from uncertain informants (Sabbagh & Baldwin, 2001) and from informants with a prior history of labeling known objects accurately than from informants with a history of inaccuracy (e.g., Birch et al., 2008, Corriveau and Harris, 2009, Jaswal and Neely, 2006, Koenig and Harris, 2005, Koenig et al., 2004, Nurmsoo and Robinson, 2009a and Nurmsoo and Robinson, 2009b). In a study by Jaswal and Neely (2006), 3- and 4-year-olds watched as an adult informant and a child informant each labeled four familiar objects (e.g., shoe) correctly or incorrectly. In a test phase, the same informants provided labels for unfamiliar objects (e.g., paint roller), after which children were asked to name the objects. Children were more likely to accept novel words from a reliable speaker irrespective of informant age (although they were more likely to rely on the adult when both informants were correct (e.g., shoe and sneaker). With age, children's tendency to rely on knowledgeable informants improves in subtle ways. For example, Pasquini, Corriveau, Koenig, and Harris (2007) reported that 3-year-olds trusted only informants with a perfect history of reliability (100%), whereas 4-year-olds took into account the relative frequency of errors when choosing an informant on whom to rely (e.g., they distinguished between one who was correct 75% of the time and one who was correct only 25% of the time). Taken together, this research indicates that children distinguish between unreliable and reliable speakers and are more likely to accept novel information from the latter.

Notably, children do not always discount testimony from previously inaccurate informants when learning new information. Instead, they consider reasons why informants were inaccurate in deciding whether to accept testimony (Nurmsoo and Robinson, 2009a and Robinson and Nurmsoo, 2009; but see Nurmsoo & Robinson, 2009b). In one study, 3- to 5-year-olds attempted to learn about the contents of boxes from a puppet with a history of inaccuracy due to a false belief (based on the misleading appearance of the box) or for an inexplicable reason (Robinson & Nurmsoo, 2009). Children were more likely to endorse testimony from the puppet under conditions of false belief, and willingness to trust the puppet was associated with the ability to give a false belief explanation of the reason for the puppet's failure. Thus, children do not simply discount unreliable speakers as a rule. Instead, emerging mental state reasoning abilities play an important role in their decisions about who to trust.

The aim of this study was to extend inquiry on children's use of informant testimony to the social domain, specifically personality attribution. The majority of previous research has focused

on language learning and object search, and it is unknown whether children will apply the same standards for endorsing informant testimony in the context of social judgments. Of particular interest was the degree to which participants would rely on a speaker's previous history of accurate or inaccurate identification of personality labels to make a basic positive or negative personality judgment about a stranger. Children engage in basic personality reasoning at an early age; even 3-year-olds make global personality attributions of niceness and meanness based on behavioral evidence (e.g., Boseovski & Lee, 2006). Both 3- and 4-year-olds use trait information to make inductive inferences about preferences (e.g., Heyman & Gelman, 2000) and emotional states (e.g., Heyman & Gelman, 1999). During middle to late childhood, children become skeptical about statements that are consistent with speakers' self-interest (Mills & Keil, 2005), and they reject self-reports of positive traits, such as intelligence, with age (Heyman & Legare, 2005). Based on children's sophistication in using testimony from reliable informants in the domain of language learning, as well as increased skepticism in personality judgments with age, we might expect that they would extend this skill to the domain of impression formation.

An alternative hypothesis is that biases in personality judgment will affect children's reliance on informant testimony in a specific way. During early to middle childhood, children exhibit a positivity bias in reasoning about other people (e.g., Benenson and Dweck, 1986, Boseovski, 2010, Boseovski and Lee, 2006, Boseovski and Lee, 2008, Boseovski et al., 2009, Heyman et al., 2003, Lockhart et al., 2002, Lockhart et al., 2008, Rholes and Ruble, 1984 and Stipek and Daniels, 1990). For example, preschoolers extend positive attributes of people to irrelevant domains (e.g., an intelligent child is also deemed as athletic) (Stipek & Daniels, 1990), disregard negative information about other people in personality judgments (Boseovski & Lee, 2008), and generate explanations for academic success earlier than for academic failure (e.g., Benenson & Dweck, 1986). In general, early to middle childhood is marked by an optimistic sense of self and others that may be adaptive in promoting positive social relations and trial-and-error learning (see Bjorklund, 1997). Thus, children's default expectation that "people are nice" may render them less willing to accept negative testimony than positive testimony about a stranger even when an informant has proven to be reliable in previous trait descriptions and even when children have no other knowledge base about the stranger from which to draw. Notably, these hypotheses are not mutually exclusive; children may be sensitive to reliable testimony yet accept positive testimony more readily than negative testimony.

In addition to examining children's willingness to accept positive and negative testimony about a stranger, this study investigated whether age of informant, specifically a maternal figure as compared with a peer, would affect children's endorsement of testimony. Because children typically observe behavior directly and make their own judgments about others in the personality understanding literature, the degree to which they are swayed by parent impressions as compared

with peer impressions is unknown. Based on Jaswal and Neely (2006), it is likely that children will choose the reliable speaker in this context. However, it is possible that children will be more likely to accept information from an adult even if it is incorrect. Research on eyewitness testimony indicates that preschoolers are particularly susceptible to misinformation when it is provided by adults rather than by children (e.g., Ceci et al., 1987 and Lampinen and Smith, 1995).

To summarize, this study examined the effect of informant accuracy (reliable vs. unreliable attributions in a history phase), informant age (child vs. adult), and informant testimony type (positive or negative trait attribution in a test phase) on children's willingness to accept informant testimony about a stranger. Both 3- and 4-year-olds and 5- to 7-year-olds engaged in a procedure adapted closely from Jaswal and Neely (2006). Participants watched a video in which two informants, one child and one adult (both females), labeled protagonists correctly or incorrectly as "mean" or "nice" depending on their behavior. This history phase established one informant as reliable and the other as unreliable. Next, participants engaged in a test phase where the same informants labeled female strangers, also one child and one adult, that participants had never seen as "mean" or "nice". After hearing the informant attributions, participants were asked to make trait attributions about the strangers to determine the degree to which they endorsed the reliable speaker in the test phase and whether endorsement varied by trait valence. In addition to the main task, a separate control condition consisting of a new group of children was also included as a way of establishing the "baseline" positivity bias that children exhibit in trait attributions in this context. In this condition, participants simply made attributions about the strangers in the absence of informant testimony or any other information.

Consistent with previous research (e.g., Jaswal and Neely, 2006 and Koenig and Harris, 2005), it was expected that children would be more likely to accept testimony from a reliable informant than from an unreliable informant in the test phase irrespective of whether the informant was an adult or a child. However, based on previous findings of a positivity bias in personality attribution, it was also expected that children would be more likely to accept positive trait attributions than negative trait attributions from reliable informants.

Method

Participants

The final sample for the main task consisted of 109 participants: 48 3- and 4-year-olds ($M = 49.2$ months, $SD = 6.9$, 22 boys and 26 girls) and 61 5- to 7-year-olds ($M = 74.5$ months, $SD = 10.2$,

33 boys and 28 girls). Participants were tested in a laboratory or in preschools or schools in a mid-sized North American city. Participants were of mixed ethnic/racial identity: 64% Caucasian, 18% African American, 1.6% Latino/Hispanic, and 9.8% who classified themselves as mixed; an additional 6.5% chose not to report on this variable. The majority of families were from upper middle-class backgrounds. There were an additional 24 participants in a control condition: 12 3- and 4-year-olds ($M = 50.1$ months, $SD = 5.6$, 7 boys and 5 girls) and 12 5- to 7-year-olds ($M = 73.7$ months, $SD = 7.9$, 3 boys and 9 girls). These participants were also of mixed ethnic/racial identity: 62.5% Caucasian, 12.5% African American, 4.2% Latino/Hispanic, 4.2% Asian, and 8.3% who classified themselves as mixed; an additional 8.3% chose not to report on this variable.

Materials

There were four phases in the study: video training, trait term training, a history training phase, and a test phase. Stuffed animal toys were used for video training, and toy characters were used for trait term training. In the history training phase, participants watched videos of actors engaged in positive or negative behaviors that were labeled by informants. In the test phase, there were video images of strangers that were labeled by the informants.

Design and procedure

Main task

First, participants underwent brief video training to ensure that they could report taped verbal information accurately (see Zelazo & Boseovski, 2001). Next, there was a trait term training phase to ensure that participants could identify the trait labels “nice” and “mean” and corresponding behaviors that were associated with them. Notably, previous research indicates that young children readily make global trait attributions of niceness and meanness (e.g., Alvarez, Ruble, & Bolger, 2001).

After the video and trait term training, participants completed a history training phase in which they viewed four video vignettes where a protagonist behaved in a clearly positive or negative way toward a recipient. Participants saw vignettes of a single valence (i.e., four positive vignettes or four negative vignettes). The decision to present behaviors of a single valence was based on pilot testing indicating that the younger children sometimes had difficulty in responding correctly when both valences were presented in the training phase. Vignettes were as follows: (a) a protagonist demolishing the sand castle of the recipient (negative version) or helping a recipient to build a sand castle (positive version); (b) a protagonist pushing a recipient intentionally so as

to knock over his or her books (negative version) or helping to carry a recipient's books (positive version); (c) a protagonist refusing to lend a jacket to a recipient (negative version) or lending a jacket to a recipient (positive version); (d) a protagonist taking a chocolate bar from a recipient (negative version) or sharing a chocolate bar with a recipient (positive version). These scenarios were chosen based on pilot testing indicating that they were understood by children in the study age group.

Following each vignette, a new screen appeared and participants saw two informants: one child and one adult. The child was described as "a kid your age," and the adult was described as "a grown-up just like your mom" (see Jaswal & Neely, 2006). Each informant labeled the protagonist as "nice" or "mean". Half of the participants in each age group were assigned to an adult reliable informant condition (adult correct, child incorrect), and the remaining half were assigned to a child reliable informant condition (adult incorrect and child correct). Furthermore, for half of the participants the reliable informant made positive attributions, and for the remaining half the reliable informant made negative attributions. After the labeling, the video was paused and children were asked to identify which informant "said something wrong" to ensure correct interpretation of the event. Thus, the history training established that one protagonist made consistent accurate attributions and the other made consistent inaccurate attributions. Participants were required to obtain a minimum of three of four trials correct. Data from 26 participants (15 3- and 4-year-olds and 11 5- to 7-year-olds) were not included in the final sample due to failure to achieve the criterion. In the final sample, 86.2% of children were correct on all trials.

After receiving the history trials that established which informant was reliable, participants received two test trials. In each test trial, participants did not witness any behaviors themselves. Instead, they saw a video still of a child or an adult woman who they had never seen before, and they viewed the same two informants label this protagonist as "nice" or "mean". Participants were asked, "What kind of person is [protagonist]?" Children who did not respond spontaneously were given forced-choice options from which to choose: "nice", "mean", or "not nice or mean".¹ Participants received one trial in which a protagonist was labeled as "mean" by the reliable informant and one trial in which the protagonist was labeled as "nice" by the reliable informant (with the unreliable informant using the other trait label). The order of the trials was counterbalanced across participants. The primary question of interest was whether children's trait attributions in the test trials would be consistent with the attributions of the reliable speaker irrespective of testimony type (in which case children should endorse "nice" when the reliable speaker says "nice" and should endorse "mean" when the reliable speaker says "mean") or whether children would be more likely to accept attributions of "nice" than of "mean".

Baseline control condition

Children in the control condition were not given any history training or exposure to informants. Instead, they were shown the test images and asked the same test question as participants who received the main task.

Results

In addition to excluding data from participants who did not meet the history training criterion and from those who chose “not nice or mean” as a response, data from an additional four participants were excluded (two for failure to cooperate and two due to technical difficulties).

Main task

Endorsement of reliable speaker

For each of the two test trials, participants were scored as correct for a response that was consistent with the reliable speaker (i.e., saying “nice” when the reliable speaker said “nice” and saying “mean” when the reliable speaker said “mean”) irrespective of whether they responded spontaneously or by forced choice. Thus, these reliability scores ranged from 0 to 2 points. Overall, participants were more likely than expected by chance to endorse the trait attribution made by the reliable speaker ($M = 1.14$, $SE = 0.05$), $t(108) = 2.33$, $p = .02$. To examine whether participants were more likely to choose the reliable speaker in the positive or negative valence trials, a test for correlated proportions was conducted (see Dixon & Massey, 1983). Results revealed that participants were significantly more likely to choose the reliable speaker when she said “nice” (75.2% of possible trials) than when she said “mean” (38.5% of possible trials), $z = 5.61$, $p < .0001$.

To examine effects of participant age, history training type, age of reliable speaker, and speaker order, a 2 (Age: 3- and 4-year-olds or 5- to 7-year-olds) \times 2 (Reliability: child reliable or adult reliable) \times 2 (History Training Type: positive or negative) \times 2 (Speaker Order: child first or adult first) between-participants analysis of variance (ANOVA) was conducted on the number of responses that were consistent with the endorsement of the reliable speaker. There was a significant effect of history training type only, $F(1, 93) = 4.08$, $p = .046$, $\eta^2 = .17$, and no other significant main effects or interactions.² Participants who received history training consisting of positive behaviors were more likely to choose the reliable informant in the test phase ($M = 1.28$, $SE = 0.08$) than those who received history training consisting of negative behaviors ($M = 1.00$, $SE = 0.08$).

Response patterns

Responses were also categorized according to the four possible patterns across trials: reliable-consistent (consistent with reliable speaker on both trials), positivity bias (response of “nice” on both trials), negativity bias (response of “mean” on both trials), and reversal (inconsistent with reliable speaker on both trials). The predominant response pattern was the positivity bias pattern (48.6% of participants), followed by the reliability (26.6%), reversal (12.8%), and negativity bias (11.9%) patterns. A McNemar χ^2 test confirmed that the reliability of the speaker influenced attributions of “nice” , $\chi^2(1, N = 109) = 5.72, p < .05$. Participants were more likely to state “nice” when it was endorsed by the reliable speaker (75.2% of trials) than when it was endorsed by the nonreliable speaker (61.4% of trials). Effect size for this measure is taken as the difference in marginal proportions (i.e., .15).

Finally, response patterns were examined further to determine whether they differed based on whether children received positive or negative history training. Findings revealed that these patterns were dependent on history training type, $\chi^2(3, N = 109) = 16.3, p = .001$ (see Table 1A and Table 1B). For both training types, the majority of participants showed a positivity response pattern of endorsing the reliable speaker only when she said “nice” on the test trials but not when she said “mean” (i.e., in the latter case, they endorsed the unreliable speaker who said “nice”). The distribution of the remaining patterns differed based on training type. Among those who received positive training, the majority of children showed the reliability response pattern. For those who received negative training, the distribution of participants was similar across the three patterns.

Table 1A. Percentages of trait attributions by consistency with the reliable speaker on the test trials for participants who received positive history training.

	Reliable-consistent for “nice”	Reliable-inconsistent for “nice”
Reliable-consistent for “mean”	34.6 (reliability response pattern)	1.9 (negativity response pattern)
Reliable-inconsistent for “mean”	57.6 (positivity response pattern)	5.7 (reversal)

Note: These response patterns are not dependent on one another.

Table 1B. Percentages of trait attributions by consistency with the reliable speaker on the test trials for participants who received negative history training.

	Reliable–consistent for “nice”	Reliable–inconsistent for “nice”
Reliable–consistent for “mean”	19.2 (reliability response pattern)	21.0 (negativity response pattern)
Reliable–inconsistent for “mean”	40.3 (positivity response pattern)	19.2 (reversal)

Note: These response patterns are not dependent on one another.

Baseline control condition

Participants in the control condition were asked to make an attribution without any history training or informant testimony. An attribution of “nice” was made on 42 of the 48 trials (87.5%), which was significantly greater than expected by chance, $t(23) = 8.30$, $p < .001$.

Discussion

This study is the first to examine children’s use of informant testimony in the domain of social judgments, namely, personality attribution. The main question of interest was whether children would endorse trait testimony of a reliable informant over an unreliable informant and whether endorsement would be greater when the informant made positive trait attributions about strangers rather than negative ones. In general, the findings indicate that children’s use of reliable informant testimony extends to the social domain. A sizable minority of children endorsed the trait attributions of the reliable informant irrespective of whether she made a positive or negative trait attribution in the test trials. However, this willingness to accept testimony from the reliable speaker was dependent on the type of information provided. Of the four possible response patterns, the majority of participants exhibited a positivity bias pattern in which they endorsed the reliable speaker only when she made a trait attribution of “nice” and rejected the attribution of “mean” (i.e., chose the unreliable speaker who said “nice”). Notably, this positivity bias was moderated by reliability in that it was reduced when the informant was unreliable. Overall, an important contribution of this research is that it reveals that positive and negative testimony are not treated equally, at least in the context of social judgments.

Consistent with previous research on acceptance of informant testimony by 3- to 5-year-olds (e.g., Jaswal et al., 2008, Nurmsoo and Robinson, 2009a and Nurmsoo and Robinson, 2009b), there were no significant age differences in response patterns. The majority of children in each age group exhibited the positivity bias pattern, and a substantial minority showed the reliability response pattern. Perhaps the simplistic nature of the task (e.g., global personality labels rather than sophisticated trait terms) reduced differences that might have emerged due to conceptualization and evaluation of the information itself. Moreover, efforts to train children to recognize the reliable speaker in the history training may explain why the positivity bias was not stronger in older participants as compared with younger participants, as has been the case in previous research on personality attribution (Boseovski & Lee, 2006). Also consistent with previous research (Jaswal & Neely, 2006), children's response pattern did not differ based on informant age. Perhaps this context, in which the adult informant was described as "just like your mom" and the child informant was described as "a kid your age," did not prompt children to see either person as the sole expert on personality (e.g., as compared with a situation in which children prefer peer input such as toy selection) (see VanderBorghet & Jaswal, 2009). This is consistent with research indicating that children discuss the characteristics of others with both parents and peers (Astington, 1993).

The finding that children are motivated to label others positively is consistent with previous results of a positivity bias in personality judgments (e.g., Lockhart et al., 2002 and Lockhart et al., 2008), and the current study extends this finding to situations in which children have no personal knowledge about an individual and must rely on others to learn about that individual. Children demonstrated an awareness of which informant was reliable, yet they proceeded to judge the stranger favorably much of the time. Jaswal and colleagues (2008) suggested that when children's expectations conflict with the statements of an informant, they are less willing to accept informant testimony even if the informant is reliable. In their study, 3- to 5-year-olds were reluctant to accept irregular word forms that came from a speaker who was a reliable word labeler in the past. For example, participants endorsed information from a speaker who used regular plural and past tense forms even though the speaker had been unreliable at labeling words previously. This study identifies a new constraint in the use of informant testimony—the tendency to view or present others in a positive light.

In interpreting these effects, it was useful to collect data from a control group of participants to determine children's "baseline" positivity bias.³ Indeed, one possible interpretation of these results is that children disregarded informant testimony entirely and simply showed the positivity bias that is typically seen in personality judgments. There are several reasons why this is an unlikely explanation of the findings. First, a greater number of children made an attribution of "nice" in the control trials than in test trials where the unreliable informant endorsed "nice",

suggesting that the testimony of an unreliable informant dampened the positivity bias. Second, participants were significantly more likely to endorse “nice” when the reliable speaker endorsed “nice” than when the unreliable speaker did so, indicating that reliability status of the informant affected children’s judgments. Third, a sizable minority of participants chose the reliable speaker’s endorsement on both trials, suggesting that the methodology was appropriate (at least for some children) for establishing awareness of reliability cues. Fourth, participants underwent history training to ensure that they could correctly label positive and negative behaviors, and children who could not do so, including those who labeled mean behaviors as nice, were not included in the final sample. Accordingly, it is reasonable to conclude that children’s performance in this study did not simply reflect inattention to the informant testimony. Instead, both a positivity bias and attention to informant reliability guided children’s behavior.

In considering why participants exhibited a positivity bias in this context, there are several possibilities that could be explored in future research. Although children accepted the trait label of “mean” in the history training phase, they may have been reluctant to attribute a stable negative trait attribution to the stranger in the test phase based solely on informant testimony. Thus, one potential question for future research is whether children might accept testimony about behaviors more readily than traits in a test phase. At a general level, it is important to discover potential limits on the type of information that children will accept from others without firsthand observation.

A second and potentially related issue concerns the assumptions that participants made about the nature of informants’ knowledge. In particular, participants were not told the basis of informants’ judgments in this study, and it is unclear whether they assumed that these judgments about the strangers were based on direct observations or other means. In the absence of specific information, participants may have reverted to the assumption that most people are nice. Given that children make mental state inferences about informants beyond noting that they are reliable or unreliable (see Nurmsoo and Robinson, 2009a and Nurmsoo and Robinson, 2009b), it is important to assess directly the role that these mental state inferences play in this context. Third, it is possible that children’s reluctance to make the attribution of meanness was influenced by display rules about appropriate behavior (i.e., not speaking badly about others). The training phase simply required children to recognize the view of the informants, whereas the test phase required them to make a judgment themselves.

Another avenue for future research concerns the impact of history training type on subsequent treatment of informant testimony. Although the positivity bias was the most prevalent response pattern overall in this study, there were differences in patterns based on whether children

received positive or negative history training. Children who received positive training were more likely than those who received negative training to choose the reliable informant in the test phase. This was unexpected given that the purpose of the training phase was simply to establish which informant was reliable. Although the reason for this result is unclear, it is possible that the positive information itself promoted better attention to the reliable informant, resulting in a heightened salience of the reliable speaker in the test phase. By contrast, a far greater percentage of children with negative history training than with positive history training showed a negativity bias. Thus, although history training was necessary to ensure that children could capitalize on informant reliability cues, it also appeared to “prime” children’s attention somewhat to positive or negative information that affected their subsequent endorsements in the test phase. The pattern of performance might have differed had children been exposed to both negative and positive behaviors during the history training phase or had they not been required to make explicit judgments in the training phase.

In comparing these results with previous findings on selective social learning, it is important to consider domain differences in the nature of the information that is learned. Word learning adheres to principles of conventionality; within a language, we can agree generally on object labels. By contrast, in personality attribution, there are myriad sources of information from which to draw when judging a person (e.g., behavioral observation, frequency and severity of behaviors viewed, adherence to or violation of norms). Thus, these findings raise several questions about the use of informant testimony in the domain of personality attribution specifically. For example, future research could examine how much negative evidence children require from a reliable informant to override a positivity bias. It is also unknown how physical characteristics may affect children’s judgments, and this may be particularly relevant to personality attribution. Although participants did not differentiate their judgments about the strangers based on age in this study, this was not the central factor of interest. Future research needs to examine this factor, and other physical characteristics, systematically. For example, children may be more willing to attribute meanness to individuals who are unattractive or who exhibit negative facial expressions (e.g., anger).

Finally, an individual differences approach to understanding children’s use of informant testimony may be a fruitful avenue for future research. For example, it is unclear to what extent there may be differences between children who endorse reliable informants and those who make positive or negative attributions about people indiscriminately. It is likely that there is an optimal range of functioning within which children are neither too trusting nor too skeptical of other people. Accordingly, examining the correlates of these response patterns in the future may enable the identification of children who are at risk for psychosocial maladjustment (e.g., compromised peer relations).

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1 Only 9 participants answered “not nice or mean”; thus, those data were excluded from analyses.

2 Results from an ANOVA in which test trial type was treated as a within-participant variable revealed the same overall pattern of findings. Thus, trial types were collapsed for data analyses.

3 Thanks to an anonymous reviewer for this suggestion.