Emergence of White-Lie Telling in Children Between 3 and 7 Years of Age

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White-lie–telling behavior in 3 to 7-years-olds was examined using a Reverse Rouge Task. Before children took a photograph of the experimenter, the experimenter asked, "Do I look okay for the photo?" In the experimental condition, the experimenter's nose had a visible mark; in the control condition, it did not. Most of the children in the experimental condition told white lies. Undergraduates who saw children's videotaped responses could not discriminate the white-lie tellers from the control nonliars. Analysis of the children's expressive behavior revealed that white-lie tellers only differed from control nonliars on three categories. Results suggest that children are not always candid truth tellers. They are able to use both verbal and nonverbal display rules and tell white lies in politeness situations.

One of the major socialization tasks for children is to acquire the etiquette of their culture, the customs or rules governing behaviors regarded as appropriate in various social settings. From early on, children are taught explicitly or implicitly how to act and talk in a particular way in a specific social setting in order to appear to be well mannered and polite to others. Concealing one's true feelings and opinions about others in some social situations is one aspect of the etiquette to which children must learn to adhere. For example, when meeting a person with unusual appearance (e.g., physical deformity), children are told not to stare at or speak bluntly about the unusual appearance;

rather, they are socialized to act and talk normally. When receiving an undesirable gift, children are also expected to express gratitude and feign liking the unwanted gift. Sometimes, they are even encouraged to tell a white lie.

White lies are untruthful statements told without malignant or malicious intent (Bok, 1978). Unlike some other types of lies (e.g., concealing misdeeds, perjury) that are viewed as antisocial, white lies are generally considered to have positive rather than negative values attached to them. Some theorists such as Sweetser (1987) have argued that white lies may not be lies at all because they comply with an important rule of social communication: one must help, not harm, the listener. In some situations, the blunt truth may be insignificant in itself but its telling can be hurtful to its recipient. Sweetser refers to these situations as politeness settings, as opposed to information settings. In such situations, white lies are often required in order to maintain amicable social relations between the speaker and the listener (DePaulo & Bell, 1996; DePaulo & Kashy, 1998). More specifically, white lies serve both other- and self-oriented protective functions: (1) to avoid hurting the feelings of the listener and (2) to avoid negative reactions from the listener to the speaker if the truth be told.

Little is known about when and how children develop the ability to tell white lies. The existing developmental research on lie production has been devoted mainly to questions of whether children lie to conceal a transgression (Lewis, Stanger, & Sullivan, 1989; Polak & Harris, 1999; Talwar & Lee, in press), at which age they begin to lie intentionally to trick others (Chandler, Fritz, & Hala, 1989; Peskin, 1992), and how successful they are in telling lies of trickery (Feldman, Jenkins, & Popoola, 1979).

Only a handful of studies have addressed issues partially related to children's ability to tell white lies. For example, Walper and Valtin (1992) found that when children were asked to give moral evaluations to story characters who told white lies, only 10-year-olds gave white lies positive ratings, whereas 6- and 8-year-olds viewed them negatively. However, in Bussey (1999), children as young as 4 years of age were asked to evaluate different vignettes in which the characters told different types of lies. She reported that even preschool children rated white lies in politeness situations less negatively than antisocial and trickery lies. This finding indicates that children in preschool years have begun to appreciate conceptually the positive values of white lies. Given this finding, one can speculate that young children may already have the basic knowledge, and perhaps skills, to tell white lies in politeness situations where such actions may be called for.

Another area of research that is partially related to children's ability to tell white lies is the development of the conceptual understanding and use of display rules in politeness settings (Cole, 1986; Davis, 1995; Garner & Power, 1996; Jones, Abbey, & Cumberland, 1998; Saarni, 1979, 1984; Zeman & Garber, 1996; Zeman & Shipman, 1996). For example, Saarni (1984) used an undesirable gift situation to examine this issue. She promised an attractive toy to children if they performed a task but after completion presented them with an unattractive toy. It was found that fifth graders had a sophisticated ability to mask their disappointed facial expressions. Cole (1986) examined the early use of display rules among preschoolers and found that even 3- and 4-year-olds masked their disappointment when given an undesirable toy. However, they only did so when the experimenter was present. The same reactions were not seen when the children were alone. These results suggest that preschool children understand the need to conceal one's true feelings in a politeness situation. Regarding the motives to use display rules, recent evidence suggests that young children's display rule use tends to be motivated by their wish to avoid negative consequences rather than by purely prosocial reasons (e.g., Zeman & Garber, 1996; Zeman & Shipman, 1996).

Although Saarni (1979) uses the term *display rule* to refer to rules that govern nonverbal emotional expressions, we believe that similar rules may exist for the regulation of verbal behaviors. In line with Saarni's conceptualization of nonverbal display rules, we define verbal display rules as rules governing verbal communications between individuals for relaying information, expressing emotion, and conveying attitude. By helping to determine what is appropriate or inappropriate in one's utterance in a given social setting, verbal display rules guide individuals to modify their public expressions of private information, feeling, and attitude.

The four categories of display rules for nonverbal behavior outlined by Ekman and Friesen (1975) also apply to verbal expressions of emotions and attitudes (i.e., minimization, maximization, neutralization, and dissemblence). For instance, a woman who won a tennis game may minimize her joy of winning by stating to the loser that she had a few "lucky" shots so as not to make that person feel bad. A worker who has a minor flu may use the maximization strategy by exaggerating his symptoms (e.g., "I couldn't get off the bed") when talking to his employer about taking time off. People who are about to bungee jump may neutralize their fear of heights by making mundane chat with others (e.g., "What nice weather out here!"). When given an undesirable gift from a friend, a person may substitute genuine feelings

of disappointment with an expression of appreciation and enjoyment of the gift (e.g., "I really like your present—it is just what I need"). Just like nonverbal display rules, verbal display rules are frequently employed in situations where empathy, courtesy, and customary etiquette are normally expected.

Although extensive research has been done on the development of nonverbal display rules, there has been limited research addressing children's understanding and use of verbal display rules. In one study by Gnepp and Hess (1986), children as young as 6 years old were told stories about a protagonist in various social situations. When asked what the protagonist should say and what face the protagonist should make, children appeared to understand verbal display rules better than facial display rules. This finding suggests that young children may be able to tell white lies in politeness situations. However, direct evidence is lacking as to whether young children tell white lies and if so, how successful their white lies are at deceiving the lie recipient.

The aim of the present study was to bridge this gap in the literature. Specifically, we investigated the emergence of white-lie telling by children 3 to 7 years of age. To determine whether children tell white lies, we used a Reverse Rouge Task, modified from the classic Rouge Task (Gallup, 1970; Lewis, Sullivan, Stanger, & Weiss, 1989) used by researchers to study the emergence of self-recognition and self-concept in young children (Kagan, 1981; Lewis & Brooks-Gunn, 1979). In the Rouge Task, a red mark is put on a child's nose and the child is placed in front of a mirror. Lewis, Sullivan, et al. (1989) found that most 2-year-olds touched their nose when they saw the red spot in the mirror. It was also revealed that children's self-touching behavior was significantly related to their display of embarrassment in front of the mirror and other people, suggesting that young children understand that a mark on the nose is unusual and out of place. In the Reverse Rouge Task, instead of putting the mark on the child's nose, the experimenter had a mark of lipstick on her nose prior to meeting the child participant. The experimenter asked the child if she looked okay before she had her picture taken. Later, after the experimenter left the room, another experimenter, the confederate, asked the child if the previous experimenter looked okay. The Reverse Rouge Task thus creates a situation in which the child must decide whether to tell a white lie when the experimenter asks explicitly about her appearance.

In addition, to determine whether child participants were successful white-lie tellers, university undergraduates were shown video clips made from the Reverse Rouge Task and asked to evaluate the children. If the children were successful in telling white lies, adults should have

difficulty discriminating between white-lie tellers and control nonliars. The same tapes were also shown to two naive coders for in-depth analysis of specific expressive behaviors of white-lie tellers and control nonliars.

Finally, to investigate whether white-lie tellers were motivated by self-protective purposes or out of concern for another's feelings, we probed those children who told a white lie about why they did so. Because the present study was the first in the literature to examine the emergence of white-lie telling, no existing evidence offered a specific, empirically grounded prediction. However, recent research on children's understanding and use of nonverbal display rules suggests that self-protection is the main motivation for young children to mask their true emotions (Davis, 1995; Zeman & Garber, 1996; see Gnepp & Hess, 1986, for discrepant findings). Thus, we speculated that the reason for most younger children to tell white lies, if they tell white lies at all, would be self-protective; as age increases, more children would become more motivated to tell white lies to protect another's feelings.

Method

Participants

A total of 98 children between the ages of 3 and 7 years of age participated in the study (M age = 67.27 months, SD = 17.87, range from 32 to 95 months). There were 65 (36 girls) children in the experimental condition and 33 (24 girls) in the control condition. Ninety-two undergraduates participated in the study as evaluators for course credit (81 women and 11 men).

Procedure and Materials for Child Participants

An overhead video camera with pan, tilt, and zooming functions was mounted to the ceiling of the laboratory room to record children's responses. While the experimenter interacted with the child, a research assistant watched the procedure on a closed-circuit television screen in an adjoining room and operated the video camera with a remote control.

After the child completed a game, the experimenter knocked and entered the room with a Polaroid camera. Two males and two females who were from different ethnic backgrounds (White, Latin American, and Asian) acted as the experimenter. In the experimental condition, the experimenter's nose had a conspicuous mark of lipstick (Figure 1); in the control condition, there was no mark on the experimenter's nose. Upon entering the room, the experimenter asked the child if it was

Figure 1. The Reverse Rouge Procedure in which an adult experimenter has a conspicuous mark on his nose.

okay to take a picture of the child. Then the experimenter took a picture of the child.

The experimenter told the child, "Your picture will take a few minutes to be ready. Would you like to take a picture of me while we wait?" The experimenter then taught the child how to use the camera: "You look through here [the viewfinder]. Make sure you can see me. Then push this button [indicating]." The experimenter then withdrew the camera from the child's reach to ensure that the still camera did not obstruct the view of the video camera so that the child's facial expression in response to the next question could be adequately recorded. At this point, to ensure that the child had a clear look at the experimenter's face, the experimenter made eye contact with the child and asked, "Before you take a picture of me, do I look okay for the picture?" If the child responded that the experimenter looked okay and did not refer to the mark on the experimenter's nose, the child was prompted to take the picture. If the child responded that the experimenter did not look okay and referred to the mark on the experimenter's nose, the experimenter wiped the mark off and said, "Thank you for telling me." The child then took the picture of the experimenter. Finally, the experimenter gave both pictures to the confederate, who was already in the room but had been busily tidying up things in

another area of the room. The experimenter then left the room, explaining that he or she had to go home right away. This statement was to inform the child that the experimenter would not be able to see the yet-to-be-developed photograph before the child's visit to the laboratory was over.

Once the pictures had developed, the confederate and child looked at the pictures together. The confederate asked, "Did he (she) look okay?" In the experimental condition, if the child commented on the mark on the experimenter's nose but had not mentioned it when the experimenter was present, the confederate asked, "Why didn't you tell him (her)?" In the control condition, the confederate also asked the child whether the experimenter looked okay, using the same tone of voice.

In the experimental condition, we expected two major types of response patterns. One involved the child telling the experimenter that the experimenter looked okay but informing the confederate that the experimenter actually did not look okay because of the mark on the experimenter's nose. Children who responded in this particular manner were categorized as white-lie tellers. Another response pattern involved the child pointing out the mark directly to the experimenter; children who gave such responses were categorized as experimental candid truth tellers. In the control condition, a child who responded to both experimenter and confederate that the experimenter (whose nose did not have a mark) looked okay was categorized as a control nonliar.

Procedure and Material for Undergraduate Evaluators

After the procedure with the child participants, a 5- to 25-second clip of each white-lie teller's or control nonliar's response to the experimenter's question, "Before you take a picture of me, do I look okay for the picture?" was obtained from the original tapes. The experimental candid truth tellers' video clips were included as control video clips to examine whether the adult evaluators were paying attention while viewing the videos. These clips were copied and divided approximately equally onto three new tapes. To ensure ample time for viewing, each clip was copied twice consecutively to give the undergraduate evaluators an opportunity to have a clear view of the child's behavior before giving a rating. The placement of the clips of the white-lie tellers and the control nonliars was randomized, subject to the restriction that approximately half of the clips on each tape were of white-lie tellers and half were of control nonliars.

Approximately 30 undergraduate students in groups (3 to 10 each group) evaluated one of the three tapes. To avoid fatigue, each under-

graduate viewed only approximately 37 to 41 video clips. The sessions lasted approximately 30 minutes. The evaluators watched the video clips of the children's responses on a 24-in television. A research assistant explained the procedure of the Reverse Rouge Task to the participants. The participants were told that they would be watching videos of children from that procedure. The children were answering an adult's question "Do I look okay for the picture?" The research assistant stated that in some cases, the adult in the video clips had a mark on his or her nose; in other cases, the adult had no mark. The participants were not able to see the face of the adult in the video. Each child was either telling the truth or telling a white lie. The participants were also informed that the video clips had been randomized such that there was always a 50-50 chance that each child was telling a lie or the truth regardless of what they thought of the previous child. They were told that each clip would be shown twice.

Participants made their ratings individually and were told not to discuss their ratings with others in the group. They were asked to rate whether a child was telling a lie or truth by giving each child a score between 1 and 7 (1 = *definitely lying,* 2 = *most likely lying,* 3 = *quite likely lying,* 4 = *not sure,* 5 = *quite likely telling the truth,* 6 = *most likely telling the truth,* 7 = *definitely telling the truth*). The evaluators were also instructed to record which, if any, behaviors they used in determining their score for each child.

Child Experience Rating

After the video was shown, each adult evaluator was asked to complete a participant information sheet that inquired about the extent and context of their experience with children. They responded "yes" or "no" to the following questions: "Are you a parent?" "Have you babysat?" and "Have you worked/volunteered with children?" The adult evaluators were also asked to rate their experience with children on a scale between 1 and 5 (1 = *very experienced,* 2 = *somewhat experienced,* 3 = *average,* 4 = *not very experienced,* 5 = *not at all experienced*).

Procedure for In-Depth Coding of Children's Expressive Behaviors

The clips used for evaluation by the undergraduate students were also used by two independently trained coders to code the verbal and nonverbal responses of the child participants when asked the target question, "Before you take a picture of me, do I look okay for the picture?" They were instructed to focus on the presence or absence of a particular expressive behavior. They did not rate whether they thought

the child participants were lying or not. The coders, who were blind to condition, watched the clips of each child between three and five times to code the child's expressive behavior, using a VCR with a frame-by-frame advancing and rewinding feature.

Five main categories were used to rate the children's behavior: eye movement, facial expression, appearance, body language, and vocalization. In an attempt to cover all possible potentially useful behaviors, these categories were derived from those used by previous researchers (Cole, 1986; Lewis, Stanger, et al., 1989; Saarni, 1984); hence, there were some overlaps. Additionally, categories were added from areas that the undergraduate evaluators had identified as informative behavioral information to distinguish the white-lie tellers from the control nonliars. The subcategories for eyes were: eye contact with the experimenter, avoidance of eye contact, looks down or away (sideways), stares at the experimenter, rapid glances at the experimenter, and looks up; for facial expression: big smile, slight smile, down-turned mouth, knit eyebrows, pressing/biting lips, tongue out, relaxed mouth, and sober mouth; for appearance: looks serious/concerned, defensive, anxious/nervous, and confident/relaxed; for body language: fingers in/over mouth, fidgets, scratches head, plays with hands, startle response, body inhibition, still, shrug shoulders, and nervous touching (hair, clothes, face, body); for prosody of vocalization: positive tone of voice, negative tone of voice, giggles/laugh, and sharp breath exhalation/sighs.

Intercoder agreement for all coding was calculated by determining the percentage of agreement within the individual categories, and a mean average was obtained across all categories. The following categories of behaviors were excluded because no single occurrence of such behaviors were coded by either coder: looks up, knitted eye brows, defensive, startled, body inhibition, shrug shoulders, and negative tone of voice. After excluding these categories, the mean intercoder agreement ratio for the remaining categories was 84% ($SD = 14\%$, range = 74–98%).

Results

Children's White-Lie Telling Behavior

In the experimental condition, 55 of the 65 children gave an affirmative response to the experimenter's question, "Before you take a picture of me, do I look okay for the picture?" when the experimenter's nose had a mark, and later told the confederate that they thought the experimenter did not look okay. Inspection of the data revealed no difference in children's responses to the different individual experimenters.

A multiple regression analysis was performed with gender, age in months, and gender by months as predictors to examine whether age and gender factors and their interaction are related to a child being a white-lie teller or a candid truth teller. The resultant regression model was not significant, $F(3, 61) = 2.34$, ns, $R^2 = .11$. Thus, regardless of age, the majority of the children in the experimental condition told a white lie. Seven children told the experimenter directly that the experimenter did not look okay because there was a mark on the experimenter's nose; these children therefore were candid truth tellers. Three children responded to both adults that the experimenter looked okay. They either did not think the conspicuous mark on the nose to be out of place or they found telling the truth to the confederate also to be difficult. One child clearly belonged to the latter case. After leaving the lab, he told his father that it was not polite to say that the experimenter did not look okay even to the confederate because the mark could be permanent. Because this follow-up probe was not a systematic procedure, it remains unclear whether the other two children had similar views. The three children were therefore excluded from further analyses. After excluding these children, of the remaining 62 children in the experimental condition, 89% told a white lie, $\chi^2(1, N = 62) = 37.16$, $p < .001$. Therefore, significantly more children in the experimental condition told lies than children who did not.

In the control condition, all children but one responded that the experimenter looked okay to both adults' inquiries. That one child told the experimenter that she did not look okay because she had blonde hair.

Undergraduates' Ratings of Children's Expressive Behaviors

For the video evaluation component of this study, the following children were excluded: the three children in the experimental condition who told both adults that the experimenter looked okay and the one child in the control condition who responded that the experimenter did not look okay because she had blonde hair. A total of 94 children remained, among whom there were 55 white-lie tellers, 7 candid truth tellers, and 32 control nonliars; among the white-lie tellers, 2 were excluded due to technical video difficulties. An additional 10 were excluded because the experimenter's head blocked the face of the child while the child was responding to the question, "Do I look okay for the picture?" Among the remaining 82 video clips, 47 contained white-lie tellers, 28 contained control nonliars, and 7 contained experimental candid truth tellers. Of the three videotapes that were created, two tapes contained 15 clips containing white-lie tellers and the same number of video clips of control nonliars. The other tape contained 17 white-lie tellers and 17 control nonliars. Because there were more

white-lie tellers than control nonliars, some control nonliars' video clips were randomly selected and appeared on more than one tape. The video clips of the 7 candid truth tellers were included on each tape.

Undergraduate students were randomly assigned to view one of the video tapes (37 to 41 clips in total) and rated each child using a 7-point Likert scale, where 1 = *definitely lying* and 7 = *definitely telling the truth*. Adult ratings of each child were averaged to obtain a mean truthfulness score for each child. Each mean score was then deducted 4 (*not sure*) to obtain a linearly transformed score. A score greater than 0 suggests that the adults on average rated the child likely to be telling the truth. A score less than 0 suggests that the child was, on average, rated by the adults to be telling a lie. All experimental candid truth tellers were correctly identified by the undergraduate evaluators as telling the truth, suggesting that the participants were paying attention to the video clips.

Figure 2 shows the mean ratings given by the undergraduate students to white-lie tellers and control nonliars. The mean scores of the male and female lie tellers and control nonliars were compared with 0 (the *unsure* rating) by one-sample t tests (male white-lie tellers: $M = -.17$, $SD = 0.94$; female white-lie tellers: $M = -.42$, $SD = 1.18$; male control nonliars: $M = -.33$, $SD = 0.87$; female control nonliars: $M = -.58$, $SD = 1.12$). Only the female control children's ratings were significantly below 0, $t(18) = -2.25$, $p < .05$. These results suggest that except for mistaking the female nonliars to be telling lies, the adults were overall unsure about whether a child was a white-lie teller or a control nonliar based on the child's verbal and nonverbal responses shown in the video.

A 2 (child type: white-lie tellers and control nonliars) × 2 (sex: male vs. female) analysis of variance (ANCOVA) was performed on the mean scores with age (in months) as a covariate. A full model was used that tested the main effects of age, sex, and child type, as well as the two-way and three-way interactions between the three factors. Only sex and sex by age effects were significant, $F(1, 67) = 4.53$, $p < .05$, $\eta^2 = .09$, and $F(1, 67) = 4.50$, $p < .05$, $\eta^2 = .06$, respectively. The effects of age, child type, child type by sex, child type by age, and child type by sex by age were all not significant: $F(1, 70) = 0.32$, *ns;* $F(1, 67) = 0.22$, *ns;* $F(1, 67) = 0.57$, *ns;* $F(1, 67) = 0.11$, *ns;* and $F(1, 67) = 0.82$, *ns,* respectively. Thus, the undergraduate evaluators could not differentiate between white-lie tellers and control nonliars. The significant sex effect appeared to be a result of the undergraduates rating girls more negatively than boys, regardless of whether the children were white-lie tellers or control nonliars. The significant sex by age effect was due to the fact that as children's age increased, the undergraduates rated girls
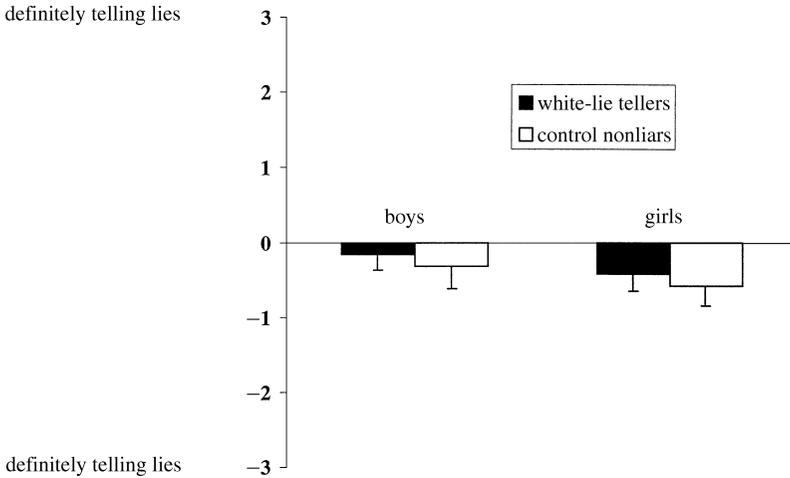
definitely telling lies

Figure 2. Undergraduate students' mean ratings and standard errors of white-lie tellers and nonliars.

increasingly less negatively (Pearson $r = .33$ between age and rating, $p < .05$) and boys increasingly more negatively (Pearson $r = -.33$ between age and rating, $p = .08$), again regardless of whether the children were white-lie tellers or control nonliars. We have no explanation as to why undergraduate students showed such differential rating bias toward girls and boys.

   The correct identification rates for both the white-lie tellers and control nonliars were also calculated for each adult evaluator. Correct identification was defined as correctly identifying a child as being either a white-lie teller or control nonliar. This was done by first identifying instances where an undergraduate evaluator accurately rated a white-lie teller as lie telling (original ratings < 4). For each undergraduate, the total number of correct identifications of white-lie tellers was obtained, which was then divided by the total number of white-lie tellers evaluated by the undergraduates to yield a "white-lie-teller" correct identification rate for the rater. The same procedure was applied to obtain the correct identification rate for the control nonliars (original ratings > 4) for the same rater. Then, all raters' correct identification rates of white-lie tellers were averaged to obtain a group mean of correct identification rates of white-lie tellers. A similar procedure was used to obtain a group mean of correct identification rate of control nonliars.

   The mean correct identification rate for the white-lie tellers was at chance ($M = 46\%$, $SD = 16\%$, range: 13–100%). The mean correct

identification rate for the control nonliars was significantly below chance ($M = 29\%$, $SD = 18$, range: 0–80%). Frequency distributions show that only 25% of the adults had a correct identification rate above 50% for the white-lie tellers and 9% of them had a correct identification rate above 50% for the control nonliars. Most adults were not good at detecting that white-lie tellers were lying and were particularly poor at identifying control nonliars as telling the truth. They tended to rate the control nonliars as lying.

The adult evaluators' self-reported experience with children was also analyzed. The mean rating was 1.9 ($SD = 0.96$), indicating that the adults overall rated themselves to be somewhat experienced with children. Their experience mainly came from baby-sitting (95%) and volunteering in organizations involving children (88%). Pearson correlation coefficients were calculated for the adults' self-reports of child experience and their hit rates for identifying white-lie tellers (Pearson $r = .12$) and control nonliars (Pearson $r = .02$). Both coefficients were not significant. Thus, the adult evaluators' self-reported experience with children was not related to their success or failure in detecting white-lie tellers and control nonliars.

In-Depth Analyses of Children's Expressive Behaviors by Two Trained Coders

To examine whether white-lie tellers and control nonliars displayed different expressive behaviors, we followed Lewis, Stanger, et al.'s approach (1989) and computed a positive behavior score and a negative behavior score. The positive behavior score was the total number of behavior categories in which a child displayed the following positive behaviors: eye contact, big smile, slight smile, relaxed mouth, confident/relaxed, and positive tone of voice (six categories of behavior in total). Negative behavior score was the total number of behavioral categories in which a child displayed the following negative behaviors: avoidance of eye contact, looks down or away (sideways), stares at the experimenter, rapid glances at the experimenter, down-turned mouth, pressing/biting lips, tongue out, sober mouth, looks serious/concerned, anxious/nervous, fingers in/over mouth, fidgets, scratches head, plays with hands, still, nervous touching (hair, clothes, face, body), and sharp breath exhalation/sighs (17 categories in total). The category "laugh/giggle" was not included in calculating either of the scores because it was equivocal as to whether it was a positive or negative behavior. In fact, only one control nonliar displayed the behavior.

In terms of positive behaviors, white-lie tellers displayed a mean of 2.89 ($SD = 1.50$) out of six categories of positive behaviors, whereas

control nonliars displayed a mean of 3.61 positive behaviors ($SD = 0.99$). A 2 (child type: lie tellers vs. nonliars) $\times$ 2 (sex: male vs. female) ANCOVA with age (months) as a covariate was conducted on the positive behavior scores. Only the age effect was significant, $F(1, 67) = 6.64$, $p = .05$, ($\eta^2 = .10$). As age (in months) increased, the children, regardless of whether they were white-lie tellers or nonliars, increasingly displayed more positive behaviors.

In terms of negative behaviors, white-lie tellers displayed a mean of 1.72 ($SD = 1.52$) out of 17 categories of negative behaviors, whereas control nonliars displayed a mean of 1.29 negative behaviors ($SD = 1.18$). In other words, both types of children displayed limited numbers of negative behaviors. A 2 (child type: lie tellers vs. nonliars) $\times$ 2 (sex: male vs. female) ANCOVA with age (months) as a covariate was conducted on the negative behavior scores. A full model was used that tested the main effects of age, sex, and child type as well as the two-way and three-way interactions between the three factors. Only the age effect was significant, $F(1, 67) = 11.28$, $p < .01$, $\eta^2 = .15$. As age increased, the children, regardless of whether they were white-lie tellers or nonliars, displayed fewer negative behaviors.

Additional chi-square analyses were performed to examine whether significantly more or fewer white-lie tellers displayed any specific expressive behavior than control nonliars. Of the six positive behavior categories, two revealed significant differences between the white-lie tellers and control nonliars (Yates corrections were used when appropriate): big smile, $\chi^2(1, N = 75) = 9.97$, $p < .01$; and confident/relaxed, $\chi^2(1, N = 75) = 7.19$, $p < .01$. Of the 17 negative behavior categories, only the category looks serious/concerned was significant, $\chi^2(1, N = 75) = 4.47$, $p < .05$. Figure 3 illustrates the significant differences between the white-lie tellers and nonliars in the three behaviors. Overall, fewer white-lie tellers displayed big smiles or appeared confident and relaxed than the control nonliars. They tended to look serious and concerned.

Children's Answers to "Why Didn't You Tell Her (Him)?"

Of the white-lie tellers, 24 (51%) responded that they did not know or forgot to tell the experimenter about the mark or they simply did not respond at all. Eight (17%) suggested the mark to be of a permanent nature but did not further elaborate why the permanent nature of the mark prevented them from telling the truth. Five (11%), of whom none was under 69 months of age (the median age of the participants), responded that they did not want to embarrass the person. Each of the 6 remaining children gave unique answers, 4 of which appeared to be
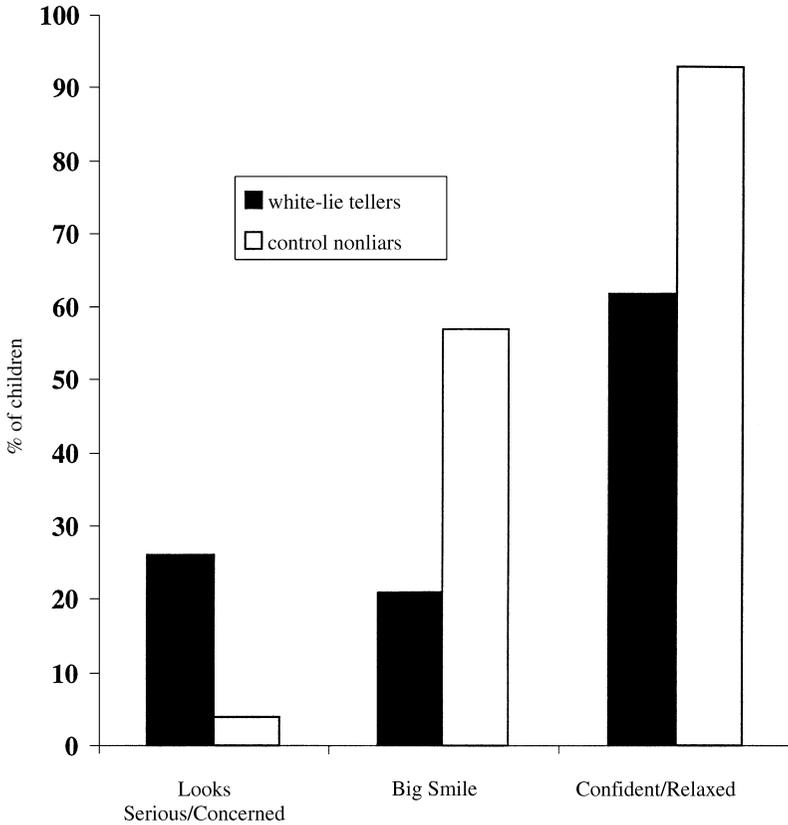
Figure 3. Percent of white lie-tellers and nonliars displaying "big smile", "confident/relaxed", and "looks anxious/concerned" behaviors.

interpretable: "He would get mad at me," "I wanted to take a picture of it," "I want him to tell me," and "She needs a Band-Aid" (suggesting that the experimenter might be bleeding). The other two answers were difficult to interpret: "It might be a nose ring" and "'cause it didn't look like a sticker."

Discussion

The present study examined the emergence of white-lie–telling behavior in young children in politeness situations. Results show that most children from as young as 3 years of age made contradictory statements about adult whose nose had a conspicuous mark. They told the adult that he or she looked okay but changed their statement when the adult was not present. This pattern of making contradictory state-

ments when the lie recipient is present versus when the recipient is absent fits the general pattern of white lies. Hence, children as young as 3 years of age are not candid truth tellers. They can use appropriate verbal display rules and tell white lies in a politeness situation.

One could argue that children's predominant "yes" answer to the experimenter's question could be an acquiescence response. However, the differential pattern of responses to the same question by experimenter and confederate rules out this possibility. Although most children responded "yes" to the experimenter's question, "Do I look okay?" the same children consistently responded "no" to the same question when posed by the confederate. If children's predominant "yes" response to the experimenter's question was due to an acquiescence bias to authority, they should give the same "yes" response to the confederate. With the exception of 3 children, all the children in the experimental condition who had not told the experimenter about the mark felt comfortable to remark upon it to the confederate with little hesitation. Children's "yes–no" response pattern was also not likely due to answer switching because the control children showed a different pattern of response, answering "yes" to the same question posed by the two adults. Thus, the pattern of responses to the two questions indicates that children in the experimental condition were indeed making a false statement to the experimenter.

Our results are consistent with the findings of Lewis, Stanger, et al. (1989), Polak and Harris (1999), and Talwar and Lee (in press). In their studies, children were situated in a temptation resistance situation in which children were told not to peek at a toy. During the absence of an experimenter, most children peeked. Among the peekers, many children, including 3-year-olds, told lies to conceal their transgressions. Despite the marked differences between the temptation resistance procedure and our Reverse Rouge Task, many children in both procedures told lies. It seems that white-lie behaviors may emerge around the same age as do lies to conceal transgressions.

With regard to the success of children's lie telling, most undergraduate students failed to differentiate white-lie tellers from control nonliars when viewing video clips of the children's expressive behaviors. Closer examination of the video clips by two trained coders also failed to reveal marked differences between white-lie tellers and control nonliars. White-lie tellers and control nonliars were indistinguishable both in terms of the total number of positive and negative expressive behaviors and in terms of a specific behavior. Of all the expressive behaviors displayed by children, only three categories showed differences between white-lie tellers and control nonliars: (1) fewer white-lie tellers displayed big smiles than control nonliars, (2) white-lie tellers were not

as confident and relaxed as control nonliars, and (3) more white-lie tellers appeared serious and concerned. Caution must be exercised when interpreting these effects. First, the differences in these three categories appear not to be effective discriminators of truth or lie tellers. The "big smile" behavior itself was not a typical expression among the control nonliars; only 57% of them displayed it. The "confident, relaxed" expression was a typical behavior among the control nonliars (93%), but more than half of the white-lie tellers (62%) also exhibited it. The "looks serious and concerned" behavior was displayed by only 26% of the white-lie tellers (4% of the control nonliars). Also, the differences in the three categories of expressive behaviors are only revealed by close inspection and repeated viewing. When children's behaviors were played in real-time speed, the white-lie tellers and control nonliars were virtually indistinguishable.

Our results regarding children's nonverbal behaviors are consistent with the Lewis, Stanger, et al. (1989) and Lewis (1993) results. These studies found that children from 3 years of age onward tell successful lies to conceal transgressions. Our finding is, however, inconsistent with previous studies (Feldman et al., 1979; Feldman & White, 1980; Morency & Krauss, 1982) indicating that adults could discriminate relatively more easily between lies and truths told by younger children than those told by the older ones. The greater success of the young children in the current study and in Lewis, Stanger, et al. (1989) and Lewis (1993) may be attributed to the more naturalistic procedures used. Children in this study and Lewis's studies voluntarily told lies, whereas the children in the studies by Feldman et al., Feldman and White, and Morency and Krauss were told by the experimenter to lie. Thus, children in the present study may have been more motivated to avoid detection and lie convincingly.

Several issues are worth noting. First, although our results only allow us to conclude that young children do tell white lies in a situation where the lie recipient has an unusual appearance, our finding suggests that children of the same ages may also tell white lies in the undesirable gift procedure. This prediction, albeit speculative, is based on the fact that in our Reverse Rouge Task, the information that children are withholding or lying about is discoverable because the mark will become apparent once the photograph is processed. In the undesirable gift procedure, the information that children are withholding (i.e., that they do not like the gift) can never be detected. Considering that about 90% of children in our task told white lies when the withheld information was discoverable, children should be even more inclined to tell a white lie in the undesirable gift procedure because the withheld information (i.e., their disliking of the gift) is more difficult to detect. Nevertheless, direct empirical evidence is needed to test this prediction.

Second, although the present results indicate that children as young as 3 years of age did not candidly tell the truth about another person's unusual appearance, our evidence is equivocal about what motivated most of them to tell white lies. As previously mentioned, individuals may tell white lies to protect the feelings of the lie recipient, but they may also do so to protect themselves from negative consequences if the truth be told. Our follow-up probing failed to reveal any systematic pattern of results. Only 5 older white-lie tellers stated explicitly that they made a false statement because they did not want to embarrass the experimenter, thus suggesting that their white lies were motivated by prosocial reasons. One 5-year-old child explicitly stated that she did not want to make the experimenter mad at her and thus appeared to tell a lie to protect herself. Over half of the white-lie tellers failed to give any justifications about their lie telling, and many others' responses were difficult to categorize. The majority of children's failure to give extensive explanations as to why they told white lies may be because they only understand implicitly the need to tell a white lie in such situations but have difficulty articulating the reasons. The direct "Why" question used in the present study may not be appropriate for assessing children's motivation to tell a white lie. With improved experimental procedures (e.g., including a condition in which children are promised a physical reward by another adult if they tell the candid truth to the experimenter that the experimenter does not look okay) or improved interview techniques (e.g., using the story-telling method by Zeman & Shipman, 1996), future studies may reveal the actual reason children of different ages tell white lies.

Third, caution should be exercised in generalizing the results of our adult evaluators' failure to discriminate between white-lie tellers and control nonliars to other adult groups. The adult participants in the present study were undergraduate students, and only one participant was a parent. Although the majority of the adult participants reported being somewhat experienced or very experienced with children (mostly through baby-sitting), adults with direct child care or education experiences may be more effective at discriminating white-lie tellers from truth tellers. In the future, researchers may wish to target these populations who have considerable experience with children. On the other hand, it may be that adults' poor detection abilities are perpetuated by socializing factors such as rules of etiquette that dictate that people overlook others' white lies in social company.

Fourth, in the present study, children told white lies to an adult with whom they were not familiar. It is not clear whether they would do the same when the individual is a familiar person (e.g., teacher, parent, or peer) with whom they may feel they can be candid. Also, in the

Reverse Rouge Task, we never informed children of the nature of the mark on the experimenter's nose. In future research, children could be informed of different reasons for the mark to be on the experimenter's nose (e.g., informing children that the mark is a birthmark, an intentional style of makeup, or an accidental misapplication of lipstick). With these modifications to our procedure, we can examine not only whether children tell white lies but also whether they can tell white lies strategically.

Finally and most important, it should be noted that there exist different types of white lies that require different levels of cognitive and social skills. At the most sophisticated level, white-lie telling requires that a lie teller intentionally make a statement to instill a false belief into the mind of the lie recipient with the knowledge that the lie recipient would be more pleased to believe the falsehood than the truth. In order to succeed in telling such a white lie, lie tellers must be able to take the perspective of the lie recipient and understand how their verbal statements, facial expressions, bodily movements, and tone of voice can be interpreted by the lie recipient. In addition, white-lie tellers must translate such understanding into well-executed actions so as to ensure that the lie recipient is deceived. In contrast, on the rudimentary level of white-lie telling, a child may learn from experience that remarking bluntly about an adult's unusual appearance may result in scolding or other negative reactions from the adult, but that making false statements in such situations leads to positive reactions. At the same time, the child may also learn that displaying certain nonverbal behaviors to an unusual-looking person could result in negative reactions, whereas displaying certain other nonverbal behaviors leads to positive ones. Based on such experience in the verbal and nonverbal realms, children may learn to make statements that they know to be false and to feign nonverbal behaviors that do not correspond to their true feelings.

Although the present study was the first to show that children as young as 3 years of age can successfully tell white lies, our findings are not clear regarding to what level children's white lies belong. Based on the findings of the recent research on children's theory of mind in general and false belief understanding and deception in particular (Perner, Leekam, & Wimmer, 1987; Peskin, 1992; Ruffman, Olson, Ash, & Keenan, 1993; Sodian, 1991; Wimmer, Gruber, & Perner, 1984; for theoretical discussions, see Perner, 1991), the youngest children, when telling white lies, may not be engaging in intentional creation of false beliefs in another (see Chandler et al., 1989 for opposing views). Rather, due to their limited theory of mind understanding and perspective-taking skills, younger children may tell white lies only on

the basis of their earlier experience in similar situations. Older children, on the other hand, may tell sophisticated white lies that are not only experience based. In their white lies, they may be taking the perspective of the lie recipient to attempt to discern the mental state of the lie recipient. Thus, although children of different ages may tell similarly successful white lies, the underlying social-cognitive explanations may be qualitatively different. This needs to be examined empirically.

In conclusion, the present study suggests that children as young as 3 years of age are not always candid truth tellers. Rather, they are able to use both verbal and nonverbal display rules and tell white lies in politeness situations. Our results further suggest that young children not only tell white lies but can do so successfully.

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