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Examining the efficacy of truth/lie discussions in predicting and increasing the veracity of children's reports ☆

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Abstract

This study investigated whether children's ability to reason about truths and lies influenced their truth-telling behavior. Four–six-year-old children ($n = 118$) played a game that was intended to motivate children to use deception to hide a minor transgression. Next, an interviewer gave children one of four preliminary discussions. Children received a typical forensic truth/lie discussion (TLD), a developmentally appropriate and more elaborate TLD, or one of two discussions that controlled for the time spent conversing with children. Children were interviewed about the event. The results revealed that children's performance on the truth/lie questions did not predict their truth-telling behavior. Regardless of their performance on truth/lie questions, children who received TLD's gave more honest reports than children who did not receive TLD's. These results suggest that discussing truths and lies with children

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may promote truth-telling behavior. However, the results cast doubt on the validity of using children's performance on truth/lie questions as a measure of competency.

Keywords: Interviews; Legal testimony; Children; Courtroom; Truth-telling; Honesty; Truth/lie discussions

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Forensic interviewers frequently conduct discussions of truths and lies with children (Huffman, Warren, & Larson, 1999; Lyon & Saywitz, 1999; McGough, 1992; Myers, 1997; Peterson, 1995; Perry, 1995). There are two primary reasons to use truth/lie discussions (TLD's) with children. First, TLD's are used to determine whether the child does or does not understand the difference between truths and lies. The courts sometimes rule children incompetent to testify if they are unable to demonstrate an adequate understanding of truths and lies (e.g., Commonwealth v.R.P.S., 1998). A second reason to use TLD's is to emphasize to children the importance of only reporting true events. The purpose of this study was to investigate both of these uses of TLD's. First, we examined whether children's performance on truth/lie questions predicts their truth-telling behavior. We also explored whether TLD's increase children's propensity to tell the truth. An additional goal of the study was to create and test an empirically informed TLD.

There is some evidence to cast doubt on the utility of TLD's with children. Goodman, Aman, and Hirschman (1987) examined 3–6-year-olds' autobiographical reports of a prior event. All children were asked four questions that were intended to approximate the questions posed during actual TLD's. Goodman et al. (1987) found no relation between children's ability to answer the truth/lie questions and the accuracy of their reports. These results were replicated in a sample of 6–9-year-olds in a study with a similar methodology reported by Pipe and Wilson (1994).

The results reported by Goodman et al. (1987) and Pipe and Wilson (1994) cast doubt on the validity of using children's performance on TLD questions to predict their truth-telling behavior. The apparent failure of using children's performance on TLD's to predict their truth-telling behavior is consistent with the adult literature on moral reasoning. Many studies have found that reasoning on morally laden tasks or vignettes does not predict whether the person engages in moral behavior (e.g., Blasi, 1983; Kohlberg & Higgins, 1987; Piaget, 1932/1965; Rest, 1985).

Further, with regard to children, performance on a standard TLD may underestimate their actual understanding of moral issues. That is, children's failure on a standard TLD does not mean that children do not understand the concepts. Researchers have amply demonstrated how children's performance on a variety of tasks can be underestimated by failing to assess constructs in age appropriate ways. For example, though Piaget

(1932/1965) found that children do not incorporate information on intention while reasoning about hypothetical story characters' wrong doings, others (e.g., Peterson, 1995; Siegal & Peterson, 1996; Wimmer, Gruber, & Perner, 1984), have found that young children do have developing concepts of intentional versus mistaken actions. In sum, the poor concurrent validity of typical TLD's may reflect the incongruence sometimes found between moral reasoning and moral behavior or may reflect the fact that the measurement is not sensitively assessing children's knowledge about truth and lies.

Do these data suggest that TLD's are ineffective with children? Should we recommend to the courts that they altogether cease using TLD's with children? There are several reasons that such conclusions may be premature. First, a different measure of children's conceptual understanding of truths and lies (i.e., one that is better suited to their developing social and cognitive abilities) might better predict their truth-telling behavior, just as the courts and forensic interviewers have assumed. However, scientific data are needed to validate this assumption. The only evidence to date (i.e., Goodman et al., 1987; Pipe & Wilson, 1994) fails to support the notion that TLD's (as currently conducted) predict truth-telling behavior.

Second, TLD's might *promote* truth-telling behavior, an issue that is distinct from whether children's performance on TLD's *predicts* their truth-telling behavior. Although extant research casts doubt on the validity of using children's performance on truth/lie questions to predict their truth-telling behavior, there are theoretical and empirical reasons to suspect that TLD's might be useful in promoting truth-telling behavior in children. The legal system can be a confusing concept to children (Saywitz & Goodman, 1996; Saywitz & Snyder, 1993). A child may have difficulties in inferring the goals and intentions of investigative interviewers and courtroom personnel. Some researchers have reported success in training children to express linguistic confusion during interviews (e.g., Peters & Nunez, 1999; Saywitz & Goodman, 1996). Similarly, TLD's might act to elucidate to children the importance of reporting only true events.

Children may understand and benefit from truth/lie discussions, despite their inability to articulate responses to typical TLD questions. Traditional TLD's are conducted with little regard for children's developing social and cognitive skills (Bussey, 1992a; McGough, 1992; Peterson, 1995). For instance, traditional TLD's generally ask children to generate definitions about the differences between truths and lies. Such a task may be beyond the linguistic capabilities of young children (Lyon & Saywitz, 1999; Perry, 1995; Pipe & Wilson, 1994). If children who fail truth/lie questions really do not benefit from the discussions, then we should expect their truth-telling behavior to parallel that of children who do not receive a TLD. In this study, we compared the truth-telling behavior of children who did to those who did not receive a TLD.

Another aspect of TLD's in need of exploration is whether and how the discussions might be tailored to better suit children's developing social and

cognitive skills. A developmentally appropriate TLD, one that the child can understand, might be a better tool to promote truth-telling behavior. Huffman et al. (1999) found that when given an extended TLD, children's reports of a prior staged event were more accurate compared to groups of children receiving no TLD or a typical forensic TLD. Not only did children receiving the extended TLD report more of the experienced events, but also they were not as led by the suggested events.

Although Huffman et al.'s (1999) data suggest that TLD's might affect children's reports, their data leave several critical questions unanswered. First, and most importantly, there was no motivation in their study for the children to lie. The misleading questions used in the first interview may have influenced the accuracy of the children's reports about the event, but it did not provide a reason for the children to lie. Their study examined whether TLD's affected children's *accuracy* in the face of suggestive questioning techniques, not children's *honesty*. Hence, data still are needed to investigate the impact of TLD's on children's truth-telling behavior in a situation where children might be motivated to employ deception. The finding in the Huffman et al. (1999) study that the extended TLD led to an increase in children's accuracy is surprising. One possibility that may account for their finding is that discussing lies with the children somehow helped them to filter out the suggested false information from the first interview. However, a second possibility is that the causal mechanism in the Huffman et al. discussions leading to increased accuracy might have been that the elaborated TLD served as a rapport building session. To examine this possibility, the amount of time spent conversing with the children prior to initiating the substantive questioning should be controlled. Finally, Huffman et al. (1999) did not report a comparison of children who passed versus failed the truth/lie questions, so one is unable to glean from their data whether performance on a developmentally appropriate TLD might *predict* subsequent behavior.

Hence, several important factors related to TLD's deserve scholarly attention. First, do TLD's promote truth-telling behavior in children's reports? Second, might simply talking to children about anything promote honest reports, or does the actual discussion of truths and lies have some facilitative effect? Third, does children's performance on a developmentally appropriate TLD predict their truth-telling behavior? To create a developmentally appropriate TLD, we selected robust findings from the developmental literature and used these to guide an empirically informed TLD, as reviewed below.

A developmentally appropriate TLD

How might the task demands of a typical TLD be modified to accommodate children's developing social and cognitive skills? First, a developmentally

appropriate TLD should ask children to identify truths and lies rather than to generate definitions. Contemporary research suggests that by around age 3 or 4, children are beginning to hold concepts about lies (e.g., Bussey, 1992b; Bussey & Grimbeek, 2000; Haugaard, Reppucci, Laird, & Nauful, 1991; Russell, Mauthner, Sharpe, & Tidswell, 1991; Wimmer et al., 1984). Although children are adept at identifying truths versus lies, they generally have difficulties in defining or explaining the difference between the concepts (Haugaard et al., 1991; Lyon & Saywitz, 1999; Perry, 1995; Pipe & Wilson, 1994). The implication of this research for the legal system is that interviewers should ask children to identify concrete examples of truths and lies rather than to explain the concepts.

Second, a developmentally appropriate TLD should ask children to identify truths and lies involving hypothetical story characters. Because social convention teaches children to respect adults, young children may be hesitant to call an adult a liar (Lyon & Saywitz, 1999). Therefore, a developmentally appropriate TLD should ask children to reason about a hypothetical actor rather than about the interviewer.

In general, children's concepts about truths and lies begin as concrete and rigid and become more flexible. Children conceive of lies as giving false information. Because children view lies as *giving* false information, investigative interviewers should explain to children that falsely feigning ignorance also constitutes a lie. A developmentally appropriate TLD should emphasize to children that falsely feigning ignorance, like false allegations, constitutes deception.

Not only can young children distinguish lies from truths, but they also tend to evaluate lies as morally wrong (Bussey, 1999; Bussey & Grimbeek, 2000; Lewis, Stranger, & Sullivan, 1989; Peterson, Peterson, & Seeto, 1983). Because children generally view lies as wrong, a moral evaluation component can be included in TLD's. However, interviewers must keep in mind that young children have difficulties in explaining *why* lies are wrong (Lyon & Saywitz, 1999). Children should be told that they will not get in trouble for telling the truth, as avoidance of punishment plays a crucial role in early deception (Bussey, 1992a; Lewis, 1993; Stouthamer-Loeber, 1987). Children should be asked to promise to tell the truth during the interview and to promise not to lie. Extant evidence suggests that children are more motivated "not to lie" than they are to "tell the truth" (Bussey, 1999).

In summary, we created an empirically driven TLD intended to accommodate children's developing social and cognitive abilities. We compared it to a typical forensic TLD. By its nature, the developmentally appropriate TLD was more elaborate and longer in duration. We included two control conditions, one matched in time to the shorter typical TLD and one matched in time to the longer developmentally appropriate TLD. We examined the efficacy of TLD's during a task where children may be motivated to employ deception. We expected that children who received the developmentally

appropriate TLD would display the highest rates of truth-telling behavior. Because we were interested specifically in whether TLD's affect children's truth-telling behavior, children were interviewed with non-leading questions immediately after committing a minor transgression. Because research indicates that even preschoolers display impressive memory for personally experienced events when interviewed after short delays with non-leading questions (see Poole & Lamb, 1998, for a review), we did not anticipate that the TLD's would affect the accuracy of children's reports outside of their truth-telling behavior.

Method

Participants

Participants were 118 children (51 females and 67 males, aged 40–81 months, $M = 62.32$ months, $SD = 11.32$) from a rural town in the western part of the US. Participants were recruited through local schools and day-care centers.

Procedure

Children were interviewed in a quiet location in a single session lasting approximately 20 min. Sitting at a table with the experimenter, children participated in two tasks. The first task was a "filler" task that was included to provide information about which the children could later be interviewed. Children were shown a picture of either a boy or a girl with his or her parents and a ferris wheel, and they were told a brief story about the characters. The second task was a modified version of a task utilized by Lewis et al. (1989) that has been shown to elicit deception in children. The experimenter showed children a toy barn and asked children to look away while a stuffed animal was hidden in the barn. Next, the experimenter gave children a hint as to what noise the animal made, and children guessed the animal. This procedure was repeated with a second toy. A third toy was hidden in the barn. Before giving children a hint, the experimenter told children that she had to leave the room and not to peek in the barn. The experimenter left the room for five minutes or until the children peeked. Children's behavior was monitored by a video recorder that was attached to a television outside the room. The experimenter then returned to the room with a second experimenter and told children that while she was gone from the room the "friend" (the second experimenter) would like to speak with him or her.

In the second phase of the research, the second experimenter conducted one of four different preliminary discussions with the children. The discussions were quasi-randomly assigned (allowing for equal number of children

who peeked in each condition). See Appendix A for the content of the truth/lie discussions.

In the typical forensic TLD condition (short/truth discussion),children received a TLD that typifies those used in actual investigative interviews (Goodman et al., 1987; Huffman et al., 1999). The questions were identical to those used by Huffman et al. (1999). Thirty-one children received the short/truth discussion; 20 of these children (6 females and 14 males) peeked.

In the developmentally appropriate TLD condition (long/truth discussion),each of the aspects previously discussed regarding a developmentally appropriate TLD was incorporated into the discussion. Four questions (Questions 1, 4, 5, and 8 in the interview) required children to identify truths and lies involving hypothetical story characters. Four questions dealt with moral evaluations (2, 3, 6, and 7). Twenty-nine children received the long/truth discussion; 21 of these children (9 females and 12 males) peeked.

Two conditions were included to control for the time spent conversing with children prior to initiating the interview. Pilot testing indicated that the typical forensic TLD lasted approximately one minute. Hence, one group of children was assigned to a condition where the interviewer talked to them for about one minute, but did not discuss truths and lies with them (short/no truth condition).The short/no truth preliminary discussion contained three questions that were similar in length and structure to the short/truth discussion. For example, instead of asking children if they knew the difference between a truth and a lie, as in the short/truth discussion, children were asked if they knew the difference between a puppy and a dog. Thirty-three children received the short/no truth discussion; 20 of these children (12 females and 8 males) peeked.

Preliminary testing indicated that the developmentally appropriate TLD lasted approximately five minutes. Hence, we included a group of children who talked with the interviewer for approximately five minutes before the interview, but did not discuss truths and lies (long/no truth discussion). Children exposed to this condition received questions similar to that employed during the rapport building session in Sternberg et al. (1997). Twenty-seven children received the long/no truth discussion; 20 of these children (7 females and 13 males) peeked.

An important part of the experimental manipulation was to control for amount of time spent conversing with children before initiating the interviews. Comparisons of the different discussions revealed that the length of the discussions differed in predictable ways. A 2 (Length) $\times$ 2 (Truth content) ANOVA revealed that the short discussions differed in length from the long discussions, $F(1, 115) = 485.75$, $p < .0005$, but discussions did not differ according to whether they contained truths and lies, $p > .05$. Thus the experimental manipulation of creating two short discussions and two long discussions was effective. The children's age in months and the number of males and females were distributed equally across discussion conditions.

Following the preliminary discussion, the second researcher interviewed children about the playing events that took place during their interactions with the experimenter. (See Appendix B.) Children were asked a total of 14 questions, 6 free recall and 8 forced-choice. The ninth and critical question in the interview was, "When (the experimenter) left the room, did you peek in the barn?" Finally, the experimenter re-entered the room and finished the guessing game with the child.

Results

Coding

First, all sessions were transcribed verbatim. A second person, an upper-level undergraduate student, checked all transcriptions for accuracy. Children's responses to the truth/lie questions were coded. For question 1 on the short/truth discussion, responses were coded as 0 if children said they did not know the difference between a truth and lie, as .5 if they said they did but provided no narrative, and as 1 if they provided a correct narrative. Coders were liberal in counting narratives as correct. Narratives were considered correct if the child made any correct statement about a truth or a lie (e.g., a lie is when you do not tell the truth; a lie is bad and a truth is good). Questions on the TLD's that asked children to identify truths and lies were scored as correct or incorrect. The moral questions on the long TLD were scored as good, bad, or don't know. The consequence questions on the long/truth discussions were scored as some kind of punishment, mom/teacher would be mad, or don't know. All of children's responses fit into one of these categories. Next, children's responses to the interview questions were scored. Scoring children's interview responses was objective and straightforward. "Don't know" responses were scored as incorrect. There was complete agreement by two graduate students in the scoring of children's responses.

Did the type of preliminary discussion affect children's reports?

Overall, 73% of the 81 peekers employed deception (i.e., denied peeking when they actually did peek). However, as shown in Fig. 1, children's honesty of their report of peeking differed by condition. A 2 (Length of discussion) $\times$ 2 (Truth content) logistic regression with honesty of report of peeking serving as the response variable was conducted. In testing the saturated logistic regression model, the interaction between Length and Truth and the main effect of Length was not statistically significant (p's $> .05$). The results revealed a main effect for Truth content (Wald $\chi^2 = 5.92$, $df = 1$, $p < .02$, odds ratio $= 8.18$). The odds ratio suggests that the odds of children who received a TLD telling the truth is estimated to be about eight times the odds of telling

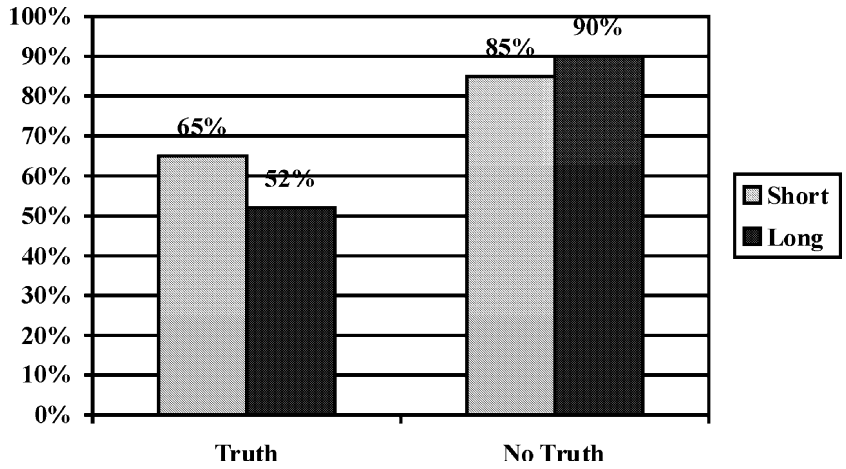

Fig. 1. Percentage of children employing deception by discussion condition (N's = 20 for each of the short/truth, short/no truth, and long/no truth conditions and 21 for the long/truth condition).

the truth for participants who did not receive a TLD.That is, children who received either the short/truth discussion (i.e., typical forensic discussion) or the long/truth discussion (i.e., the developmentally appropriate truth discussion) were more apt to tell the truth than were children who received the preliminary discussions that did not mention truths and lies.

To examine whether the effect of receiving a truth/lie discussion was moderated by age or sex of the participants, we conducted a hierarchical logistic regression with sex, age, preliminary discussion (containing truths: yes or no), and the interaction terms of sex × preliminary discussion and age × preliminary discussion as the predictor variables and honesty of report of peeking as the response variable. Preliminary discussion was entered into the model first to test whether our post hoc variables had any impact on truth telling over and above the effect noted for the preliminary discussion. The results revealed that the two-way interactions were non-significant, so they were dropped from the model. The model was re-tested with only the main effects of age and sex. The results revealed a main effect of sex (Wald $\chi^2 = 4.29$, $df = 1$, $p < .04$, odds ratio = 3.24). For children who received the no truth discussions, 86% of males and 89% of females employed deception. For children receiving a TLD, 46% of males and 80% of females employed deception. The odds ratio indicates that the odds of males telling the truth are about three times the odds of females telling the truth. All other variables did not meet the selection criteria ($p > .05$).

We also examined the impact of preliminary discussions on the accuracy of children's reports of the prior event. All 118 children were included in these analyses because the accuracy of reports was not contingent on whether the child had a motivation to lie. We conducted a 2 (length of preliminary discussion) × 2 (truth content) ANOVA on the number of correct responses to forced-choice questions and to free recall questions. For both

types of questions, no main effects were significant, Fs < 1. Thus, the nature of preliminary discussions had no impact on accuracy of reports when children had no motive to lie.

Did children's performance on the TLD's predict the honesty of their reports?

To examine whether TLD's predicted honesty, children's ($n = 81$ peekers) performance on the truth/lie questions and their truth-telling was examined. Children's truth-telling behavior was measured by whether they admitted or denied peeking. In the short TLD, the mean number of correct responses was 2.1 (of 3) items ($SD = .79$), with 17, 80, and 90% of children scoring correctly on short/TLD questions 1, 2, and 3, respectively. Children's performance on the individual (and pooled) truth/lie questions did not correlate with their truth telling behavior (all Pearson correlation p's $> .05$).[1] Children's accuracy on the three TLD questions did not correlate with one another (all p's $> .05$).

Next, children's performance on the four long/truth discussion questions that asked children to identify truths and lies was examined. The mean number of correct responses was 3.2 items (of 4) ($SD = 1.00$), with 97, 59, 97, and 61% of children scoring correctly on Long/TLD questions 1, 4, 5, and 7, respectively. There was no association between children's performance on the TLD questions and their truth telling behavior (all Pearson r's $> .05$).[2]

The long/truth discussion also contained questions related to the morality of telling lies. Ninety-five percent of children responded that lies were bad for both Long/TLD Questions 2 and 6. Of all of the children who did not respond that lies were bad, only one child rated lies as "good;" all others replied "I don't know." Eighty percent and 76% of children identified that lying would lead to a negative outcome (e.g., some kind of punishment or mom/teacher would be mad) in Long/TLD Questions 3 and 7, respectively. Of all children not identifying a negative outcome from lying, all children responded "I don't know."

Discussion

The purpose of this study was to explore (1) whether discussing truths and lies with children predicts their truth-telling behavior, and (2) whether

[1] Chi squares using performance on the TLD questions to predict honesty also failed to reach statistical significance. In addition, a median split of children who were high versus low performers on the TLD questions was performed, and the groups did not differ in truth-telling behavior.

[2] We again conducted individual inferential tests using performance on the TLD questions to predict honesty. All tests (including a median split of high and low performers on the questions) failed to reach statistical significance.

children's performance on TLD's promotes truth-telling. Consistent with past research (Goodman et al., 1987; Pipe & Wilson, 1994), our results fail to support the notion that children's performance on TLD's predicts their truth-telling behavior. However, children who received a TLD gave more honest reports than did children not receiving a TLD, suggesting that TLD's might nonetheless work to promote truth-telling behavior.

Does children's performance on TLD's predict their truth-telling behavior?

The finding that children's performance on TLD's did not predict their truth-telling behavior is consistent with extant research (Goodman et al., 1987; Pipe & Wilson, 1994). A typical forensic TLD might fail to predict children's truth-telling behavior because the questions typically posed give little regard to children's developing social and cognitive skills. The developmental literature suggests that young children have difficulties in articulating the difference between truths and lies, a question often posed during forensic TLD's. In our study, only 17% of 4–6-year-olds correctly articulated a definition of truths and lies. Other questions common to a traditional TLD are to ask children to identify truths and lies, a task that nearly all 4-year-olds can accomplish. Because the forensic TLD is typically composed of only three questions, one that nearly all young children fail, and two which nearly all children pass, it should not be surprising that the typical TLD lacks concurrent validity.

The elaborated TLD used in our study was designed to be developmentally appropriate. However, children's performance on these questions, too, failed to predict their truth-telling behavior. On the developmentally appropriate TLD, which was designed to be well-suited to children's social and cognitive skills, nearly all children responded correctly. This near-ceiling performance in children's behavior precludes the variability necessary to examine any predictive power that the TLD might possess. Hence, even a developmentally appropriate TLD apparently may not be a suitable tool for predicting children's truth-telling behavior. However, it is important to note that our TLD was designed to be easily understood by children. Perhaps there is some sort of truth/lie test that could be created that would serve to predict truth-telling behavior.

However, it may be that modified TLD's will not predict truth-telling behavior, just as the adult literature has found that moral reasoning does not necessarily predict moral actions.

Do TLD's promote truth-telling behavior?

The results from this study also indicate that children's testimony may benefit from discussions of truths and lies. Children who received a TLD, whether the typical forensic TLD or the developmentally appropriate

TLD, displayed more truth-telling behavior than did children in the control conditions. There appears to be a benefit of discussing truths and lies above and beyond simply establishing rapport with children as indicated by the higher rates of truth-telling behavior produced by the TLD conditions. Ninety and 85% of children in the control conditions employed deception in our task by denying that they had committed a minor transgression. In contrast, 65% of children exposed to the typical TLD and 52% of children exposed to the developmentally appropriate TLD employed deception.

At first glance, it may seem counterintuitive that TLD's promote truth-telling despite their apparent inability to predict truth-telling behavior. The parsimonious explanation for this finding is that TLD's are not sensitive measures of truth-lie understanding. Children's performance on some TLD questions (e.g., to explain differences in truths and lies) is at the floor, while on truth/lie identification questions, their performance is at ceiling. The lack of variability in their performance on these questions does not allow the tests to sensitively measure their understanding. By age 3, children possess developing concepts of truths and lies, and the TLD's may act like other courtroom training protocols in explaining to children their role in the interview.

Our results also revealed that girls were more likely than boys to employ deception regardless of whether they received a TLD. Although TLD's led to more honest reports in both girls and boys, girls were still more likely than boys to employ deception. Lewis et al. (1989) also found that girls were more likely than boys to employ deception to hide their minor transgression. These results should be viewed with caution because other studies did not find sex differences in propensity to employ deception (e.g., Polak & Harris, 1999). In addition, Gervais, Tremblay, Desmarais-Gervais, and Vitaro (2000) found in a survey of the parents of over 1000 children that girls were reported to lie less than boys.

Limits and conclusions

In our task, children were interviewed immediately after an event that was intended to motivate them to commit a minor transgression (i.e., peeking at a forbidden toy). Children were very accurate in describing the prior event regardless of preliminary discussion. This finding is not surprising because children were interviewed following a short delay with non-leading questions. However, combined with Huffman et al.'s (1999) results suggesting that a developmentally appropriate TLD increased accuracy when interviewed with suggestive questions following a delay, these results suggest that a developmentally appropriate TLD might be used in investigative interviews to elicit the most honest and accurate testimony. However, replication of these results is needed in a study that combines delay, motivation to lie, and suggestive questioning before making recommendations for policy

changes. In addition, although we took careful steps to balance our experimental groups, the question types were not balanced across conditions. Specifically, the long/no truth contained more open-ended questions than the long/truth conditions. Future research is needed to examine the role of question type combined with the substantive TLD content.

Caution should be used when attempting to generalize the results from this study to the actual forensic setting. In our study, children took part in a play session that was intended to lead them to commit a minor transgression. Children were interviewed once by non-intimidating adult immediately following a play session. In cases of suspected child abuse, much more time lapses between the event and the interview. In addition, in actual legal cases, children may have a variety of compelling reasons to fail to disclose abuse or to make false statements. It is unknown whether or to what extent a TLD would be effective in offsetting these pressures. Future studies should examine whether different motivators or reasons underlying false statements (e.g., to gain a reward, to protect an adult, source monitoring errors) influence the efficacy of the TLD's. The efficacy of the TLD's might also change according to the motivator that children have to employ deception.

Another important issue that deserves further scholarly attention is how children think about feigning ignorance. This is a particularly important issue to explore because experts believe that the most common type of lie from the child witness is to falsely deny (rather than falsely allege) that abuse occurred. Several researchers have found that children sometimes keep secrets during interviews about staged events (e.g., Bottoms, Goodman, Schwartz-Kenny, & Thomas, 2002; Pipe & Wilson, 1994). However, research is needed to explore children's conceptions of feigning ignorance as a form of deception, and also how interviewers can best emphasize to children the importance of acknowledging if an event occurred. Explaining to children that falsely feigning ignorance constitutes deception may be a crucial component of a TLD because this concept seems nebulous to children. However, researchers must also explore whether certain modifications to a TLD, such as emphasizing false denials as lies, might lead to an increase in false allegations.

In conclusion, there is no evidence to date to support the use of TLD's as tests of young children's competency to act as witnesses. During forensic TLD's, young children likely would flounder on questions asking them to state the difference between truths and lies, which might only serve to discredit them as witnesses. The literature on children's understanding of truths and lies suggests that by age three or four, typically developing children have an adequate understanding of the concepts to act as witnesses (e.g., Bussey & Grimbeek, 2000). However, discussions of truths and lies with children appear to increase truth-telling behavior in children in situations where children are motivated to employ deception to hide their minor transgression.

Appendix A. Truth/lie discussions

Short/truth discussion

Hi. My name is (*interviewer's name*). I wanted to talk to you about some of the things that happened when you were playing with (*name*) today. But first, let me ask you a few questions. (1) Do you know the difference between a truth and a lie? (2) If I said your shirt was (color, e.g., red), is that the truth or a lie (*actually true*)? (3) If I said that you were a girl/boy, is that the truth or a lie (*actually false*)? I want you to tell me the truth about the games that you played with (*name*) today.

Long/truth discussion—boy version

Hi. My name is (*interviewer's name*). I wanted to talk to you about some of the things that happened when you were playing with (*Name*) today. First, I'd like to ask you some questions about what it means to tell the truth and what it means to tell a lie.

Story 1

Kyle is a boy who is your age. Let me tell you what happened to him today, and you tell me whether this is the truth or a lie or something else. Kyle was outside playing. He was hopping on one foot. While he was hopping, he stepped on his mom's flowers! Later, his mom asked him, "Kyle, did you smush my flowers?" Kyle said, "No."

(1) When Kyle said, no, he did not smush the flowers, was that the truth or a lie or something else?

(2) Was it bad or was it good for Kyle to tell a lie?

(3) What would happen if Kyle's mom or dad found out that he lied?

Then Kyle's mom said to him, "I also noticed when I was in the backyard that my scissors to cut the flowers are missing. Do you know where they are?" Kyle never saw the scissors when he was out there playing. So he said, "No, mom. I don't know where the scissors are." (4) When Kyle said that he did not know where the scissors are, is that the truth or a lie or something else? Right, that is the truth. Kyle really does not know what happened to the scissors. [*or correct the child as to why this is the truth*]

Story 2

Brett was at school. He saw his friend Matt feed the fish. The kids aren't supposed to feed the fish because the fish will get sick if they eat too much.

Later in the day, Brett's teacher told him that the fish were sick, and he asked Brett who fed the fish? Brett didn't want his friend Matt to get in trouble. So, he told his teacher, "I don't know who fed the fish." Remember, he knew that his friend Matt was really the one who fed the fish.

(5) When Brett said that he didn't know who fed the fish, was that the truth or a lie or something else? Remember, Brett knew that it was really his friend Matt who fed the fish.

(6) Was it good or bad for Brett to tell a lie?

(7) What do you think would happen if Brett's teacher found out that he told a lie? Then Brett's teacher asked him, "Brett, did you feed the fish? Brett said, "No, I did not feed the fish." Now remember, Brett really did not feed the fish. But he saw his friend Matt feed the fish.

(8) When Brett said that he did not feed the fish, was that the truth or a lie or something else? Right, that is the truth. Brett did not feed the fish. But he did see his friend Matt feed the fish. So, it is better just to tell the truth about what happened. I want you to tell me what happened when you were playing with (*Name*). Since I wasn't there, it is really important that you tell me the truth and tell me everything that happened. You won't get in any trouble at all for telling the truth. I see you know what the truth is and what a lie is.

(9) Do you promise to tell the truth and tell me just what happened?

(10) Do you promise not to lie?

Appendix B

The interview

I want to find out all about your games you were just playing with (*Name*). I wasn't there, so I don't know what all you did.

1. Tell me everything you did when you were playing with (*Name*).
2. Did you look at pictures of anything?
3. What were the pictures of?
4. In the picture you saw, where Billy/Stacey went to the park, did he/she ride a ferris wheel or a train?
5. Was anyone else there with Billy/Stacey, or was he/she alone?
6. Who was with him/her?
7. Did you play with any animals?
8. What animals did you play with?
9. When (*Name*) left the room, I saw her out in the hall. She told me that you were in the middle of a game. When she left the room, did you peek in the barn?
10. When she left the room to talk to you teacher, did she tell you it was okay or not okay to peek?

11. What color was (*Name's*) shirt?
12. Did (*Name*) make any noises that sounded like animals?
13. What kind of noises did she make?
14. Do you remember what the cat's name was, Tiger or Fred?

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