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Assessing Children's Competency to Take the Oath in Court: The Influence of Question Type on Children's Accuracy

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Abstract

This study examined children's accuracy in response to truth–lie competency questions asked in court. The participants included 164 child witnesses in criminal child sexual abuse cases tried in Los Angeles County over a 5-year period (1997–2001) and 154 child witnesses quoted in the U.S. state and federal appellate cases over a 35-year period (1974–2008). The results revealed that judges virtually never found children incompetent to testify, but children exhibited substantial variability in their performance based on question-type. Definition questions, about the meaning of the truth and lies, were the most difficult largely due to errors in response to "Do you know" questions. Questions about the consequences of lying were more difficult than questions evaluating the morality of lying. Children exhibited high rates of error in response to questions about whether they had ever told a lie. Attorneys rarely asked children hypothetical questions in a form that has been found to facilitate performance. Defense attorneys asked a higher proportion of the more difficult question types than prosecutors. The findings suggest that children's truth–lie competency is underestimated by courtroom questioning and support growing doubts about the utility of the competency requirements.

Keywords

Competency; Children; Oath; Question type

Introduction

In many jurisdictions, witnesses are expected to affirm in some manner that they will tell the truth, typically by taking the oath. A common concern is that child witnesses may be too young to meaningfully understand what they are asked to do, and for that reason child witnesses may be asked questions about their understanding of the meaning and morality of truth-telling. This understanding can be referred to as truth–lie competency. Examination of the statutory law in the United States, Australia, New Zealand, England, Scotland, and Canada reveals that the United States probably requires the most intensive process for child witnesses: some form of oath or affirmation is near-universally required (only two states allow unsworn testimony), and truth–lie competency inquiries are still very common (Lyon,

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in press). For example, in the state of California, witnesses are disqualified if they are "incapable of understanding the duty of a witness to tell the truth" (California Evidence Code, 2010). In contrast, in other countries, the truth–lie competency requirements have largely disappeared. In Australia, all but two states have eliminated competency inquiries of children, as have New Zealand, England, Scotland, and Canada.

Even when children are not asked truth–lie competency questions in court, they may be asked those questions during forensic interviews. Studies of forensic interviewing have found large percentages asking about truth–lies in the United States (Huffman, Warren, and Larson, 1999; Sternberg, Lamb, Orbach, Esplin, & Mitchell, 2001; Walker & Hunt, 1998); England and Wales (Westcott & Kynan, 2006), New Zealand (Davies & Seymour, 1998), and Scotland (Larooy, Lamb, & Memon, 2011). Some of these studies were conducted before legal reforms liberalized the competency rules and made such questioning unnecessary. However, in at least two jurisdictions that have liberalized the competency requirements for testimony (England and Scotland), advisory groups have nevertheless recommended that interviewers ask the truth–lie competency questions to assess the child's statements (Home Office, 2001; Richards, Morris, & Richards, 2008).

Because a substantial majority of child witnesses are school age or older, children should have little difficulty in demonstrating their competency. Developmental research demonstrates that children's understanding and moral judgments of truth and lies emerges during the preschool years. Children as young as 3 1/2 years of age understand that "truth" refers to factual statements and "lie" to counterfactual statements, and that accurate statements are positive and inaccurate statements negative (Lyon, Carrick, & Quas, under review). This understanding is firmly in place by 4 years of age (Bussey, 1992, 1999; Talwar, Lee, Bala, & Lindsay, 2002).

Factors Influencing Children's Demonstration of Competency

Children's ability to demonstrate such an early understanding has been found to be influenced by the types of questions asked. Lyon, Carrick, and Quas (2010) and Lyon et al. (under review) found that preschool-aged children successfully accepted true statements and rejected false statements before they were able to label true and false statements as "truth" and "lie" or as "good" and "bad." Lyon and Saywitz (1999) found that young children were able to label statements as "truth" or "lie" before they were able to provide a definition or explain the difference between truth and lie (also see Pipe & Wilson, 1994). Defining terms (or explaining how terms are different) requires an abstract understanding of the proper use of the word, and may be particularly difficult when the terms refer to concepts rather than objects.

Motivational factors may also affect children's apparent truth–lie competency. Young children are sometimes more adept at determining whether statements are the "truth" rather than whether they are "lies," possibly because of a reluctance to attribute a term with negative connotations (Lyon & Saywitz, 1999; Lyon et al., under review). Lyon, Saywitz, Kaplan, and Dorado (2001) found that 5- to 6-year-old maltreated children were better able to discuss the hypothetical consequences of lying when the protagonist was a story child rather than themselves. Lyon and colleagues noted that young children often react to hypothetical questions as suggestions, and will reject undesirable premises. They reasoned that children may have been better at identifying negative consequences for story children because they would not be implicated in the negative behavior. Peterson, Peterson, and Seeto (1983) found that until 11 years of age, most children denied ever having told a lie.

Children's Truth/Lie Performance in Court

For a number of reasons, one might expect that children would perform well on the truth–lie competency questions asked in court. Prosecutors are obviously aware of the competency requirements for testifying, and are unlikely to proceed with a prosecution unless they are confident that a child can qualify as competent (Smith & Elstein, 1993). Indeed, prosecutors are sometimes advised to practice the questions with the child before his or her testimony (Morey, 1985). Moreover, younger witnesses who might be expected to find competency questions difficult are likely to be rejected as witnesses for other reasons, such as their resistance to testifying (Goodman et al., 1998) and their susceptibility to impeachment through cross-examination (Zajac & Hayne, 2006). For these reasons, one typically sees prosecutors rejecting larger percentages of cases involving younger victims (Brewer, Rowe, & Brewer, 1997; Stroud, Martens, & Barker, 2000). Hence, the examination of children's courtroom performance will present an optimistic portrait of children's understanding.

On the other hand, we suspected that in a stressful environment such as a courtroom, cognitive and motivational difficulties that impair younger children might also present difficulties for older children. Two lab studies have found that child witnesses' performance suffers when they are questioned in a courtroom environment (Hill & Hill, 1986–1987; Saywitz & Nathanson, 1993). These experimental manipulations likely understate the difficulties, because the children were not testifying in actual cases, in which the subject would most likely involve victimization, and the defendant would most likely be a familiar adult. Furthermore, most of the research on children's truth–lie competency has examined children predominantly from middle- to upper-class backgrounds (e.g., Bussey, 1992; Haugaard, Reppucci, Laird, & Nauful, 1991; Talwar et al., 2002), whereas a substantial percentage of abused children appearing in court will be from lower-class backgrounds and suffer from language delays (Lyon & Saywitz, 1999).

A few studies have observed the competency process. Cashmore and Bussey (1996) examined 45 competency examinations conducted in criminal courts in New South Wales, Australia. Although they did not systematically analyze the questions (and provided no information on children's accuracy), they noted "considerable variation in the linguistic and conceptual difficulty of the questions and in judicial expectations of children's responses" (p. 328). Goodman et al. (1992) observed eight competency hearings in the U.S., in which all of the competency questions were asked by the judge. Neither the questions nor the answers were recorded verbatim, although observers rated the judges as "very supportive." In Gray (1993), U.S. court observers watched 27 children questioned about their truth–lie competency. Again, neither the questions nor the answers were systematically analyzed. None of the judges, prosecutors, or defense attorneys was rated as "condescending," and only 6% of the defense attorneys (and none of the judges or prosecutors) were rated as "intimidating." However, 22% of the defense attorneys were evaluated as having asked age-inappropriate questions, compared to 5% of the prosecutors and 7% of the judges. Limited research thus suggests that few adult questioners in court are overtly hostile, but there are reasons to suspect that the questions they ask may present more subtle linguistic and motivational difficulties for children.

Gray's finding that defense attorneys asked more age-inappropriate questions during the competency inquiry suggests the importance of examining attorney differences. Other studies utilizing court observers have examined cross-examination more generally, and have found that defense attorneys were less likely to ask age-appropriate questions, including in the United States (Goodman et al., 1992), Australia (Cashmore & DeHaas, 1992), and Scotland (Flin, Bull, Boon, & Knox, 1992), but not in the U.K. (Davies & Noon, 1991; Davies, Wilson, Mitchell, & Milsom, 1995). Two studies in New Zealand systematically

analyzed questions in transcripts, and found that defense attorneys asked more complex and grammatically confusing questions than prosecutors (Davies & Seymour, 1998; Zajac, Gross, & Hayne, 2003), although one transcript study in the United States did not find attorney differences in average syntactic complexity (Evans, Lee, & Lyon, 2009).

The Present Study

The present study examined the types of truth–lie competency questions asked by the court, prosecutors, and defense attorneys of child witnesses testifying in court. We utilized both a sample of children testifying in child sexual abuse cases in one jurisdiction in California and a sample of appellate cases across the United States. Based on the limited research on children's performance in courtroom questioning, we anticipated that the great majority of children would qualify as competent and be allowed to testify (Goodman et al., 1992; Gray, 1993). However, we expected to find substantial variability in the extent to which children would correctly answer different types of competency questions.

We specifically examined questions that asked about either the meaning or morality of truth and lies. Overall, across all competency questions, it was predicted that children's performance would improve with age. With respect to meaning questions, we predicted that children would make fewer errors when asked to identify an example of truth/lie (Identification questions) than when asked about the definition of truth/lie (Definition questions), to generate exemplars of truth/lies (Example questions) or to differentiate between truth and lies (Difference questions), consistent with laboratory findings (Hypothesis 1).

We predicted that in response to morality questions children would make fewer errors when asked if a concept was positive or negative (Evaluation questions) than when asked about the consequence of telling the truth or a lie (Consequence questions) (Hypothesis 2). Consequence questions may be more difficult than Evaluation questions for two reasons. First, children may be more averse to answering Consequence questions, because they often require explicit references to punishment. Second, reasoning about consequences may be more difficult because it entails both evaluating whether the statement is positive or negative and determining what the consequences would be.

Based on Lyon et al.'s (2001) findings it was predicted that children would make fewer mistakes in response to questions using a third person or an impersonal pronoun compared to first or second person pronouns (Hypothesis 3). We also examined whether children's accuracy varied depending on whether they were asked about the truth or lies. Based on Lyon et al. (2010, under review), we predicted that children would be more accurate at answering questions about the "truth" compared to questions about "lies" (Hypothesis 4).

We also predicted that children would frequently err in response to questions about whether they had ever told a lie (Prior Occurrence questions), also consistent with laboratory findings (Hypothesis 5).

Finally, we assessed whether there were attorney differences in the types of competency questions asked by prosecutors and defense attorneys, and we tentatively predicted that defense attorneys would ask more difficult questions (Hypothesis 6).

Method

Participants

Los Angeles County Sample—Pursuant to the California Public Records Act (California Government Code 6250, 2010), we obtained information on all felony sexual abuse charges under Sect. 288 of the California Penal code (sexual abuse of a child under 14 years of age) filed in Los Angeles County from January 2, 1997 to November 20, 2001 (N = 3622). Sixty-three percent of these cases resulted in a plea bargain (N = 2275), 23% were dismissed (N = 833), and 9% went to trial (N = 309). For the remaining 5% of cases, the ultimate disposition could not be determined because of missing data in the case tracking database. Among the 309 cases that went to trial, 82% led to a conviction (N = 253), 17% an acquittal (N = 51), and the remaining five cases were mistrials (which were ultimately plea-bargained).

For all convictions that are appealed, court reporters prepare a trial transcript for the appeals court. Because criminal trial transcripts are public records (*Estate of Hearst v. Leland Lubinski*, 1977), we received permission from the Second District of the California Court of Appeals to access their transcripts of appealed convictions. We paid court reporters to obtain transcripts of acquittals and non-appealed convictions. Given funding limitations, we prioritized the acquisition of acquittals. We were able to obtain trial transcripts for 235 of the 309 cases, which included virtually all of the acquittals and mistrials (95% or 53/56) and 71% (182/253) of the convictions. Two hundred-eighteen (93%) of the transcripts included one or more child witness under the age of 18 at the time of their testimony. These transcripts included a total of 420 child witnesses, ranging in age from 4 to 18 years of age (M = 11.72, SD = 3.01, 346 females), with only 5% of children at the preliminary hearing and 5% of children at trial 6 years or younger).

When examining the relationship between the child witness and the defendant, we found that the defendant was a stranger 13% (N = 54) of the time, a biological parent 10% (N = 41) of the time, a stepparent 15% (N = 65) of the time, or someone the child knew (e.g., relative, neighbor, or child care provider) 58% (N = 240) of the time. The child witness was not a victim in 4% (N = 18) of the cases and the relationship was unknown in two cases. Of the 17 cases with transcripts that did not include a child witness under the age of 18, only six cases relied on hearsay evidence from the child victim. Eight cases involved an adult witness who had been victimized as a child, two cases involved undercover police officers as virtual victims, and 1 case involved a 2-year-old victim based on physical and circumstantial evidence.

For the purposes of the present investigation, we examined only those cases in which competency questions were asked, resulting in 103 cases and 164 child witnesses. Thus, 39% (164 out of 420) of all child witnesses were asked competency questions. Transcripts included preliminary hearings and trial testimony. We focused on trial testimony transcripts but if no competency questions were asked at trial we examined preliminary hearing transcripts, because a finding of competency during a preliminary trial could enable the judge to find a child competent at trial.

The final sample of 164 child witnesses included 10 preliminary hearings and 154 trial testimonies. Children's age ranged from 4 to 15 years old (M = 9.41 SD = 2.29, 127 females). The majority of children under 10 years of age were asked competency questions. Two children between 4 and 5 years of age were non-responsive on the stand and were therefore found unavailable to testify without answering any competency questions. No child over 15 was asked competency questions (see Table 1). Of the children who answered

competency questions, we did not identify any case in which a child was found incompetent to testify.

United States Sample of Appellate Cases—In order to identify appellate cases quoting competency questions asked of child witnesses, we conducted a Westlaw search using the ALLCASES database, which includes both U.S. state and federal cases.[1] A total of 154 cases from 1974 to 2008 were obtained in which competency questions were quoted. Because of our focus on the influence of question type on children's accuracy, we excluded cases in which competency questions were not mentioned or only paraphrased. Seventy-six percent of the final sample (N = 118) were criminal sexual abuse cases, 22% (N = 34) were other forms of criminal cases, and one case was a civil custody case. The child who testified was a victim in the case 75% (N = 116) of the time and a witness to the crime 24% of the time (N = 37). The cases included a total of 154 children with ages ranging from 3 to 15 years (M = 7.10, SD = 2.61, 110 females).

The jurisdiction of the cases included 79% (N = 122) from a State appellate court (or, in two cases, trial court), 15% (N = 23) from a State supreme court, and 5% (N = 8) from a Federal court (district, appellate, or military appeals). At least one transcript was identified from 32 States, with the largest percentages coming from Ohio (19%, N = 29) and North Carolina (10%, N = 15). Four percent (N = 6) of the cases was from California, and none of the California cases were represented in the Los Angeles sample.

When examining the courts' decisions regarding children's competency, we discovered that the trial court found 86% (N = 133) of children to be competent. The trial court's competency determination was not challenged in 16% (N = 25) of the appellate cases. When the appellate courts did address competency (N = 127), they upheld the findings of competency 93% (N = 103 out of 111) of the time and incompetency only 31% (N = 5 out of 16). When specifically examining the 68 children between 3 and 6 years of age, we found that 96% (N = 65 out of 68) were found competent to testify.

Coding

Competency questions were coded for the form of the question asked as well as the vocabulary used in the question. Questions that were complex or poorly formed so that the question being asked was unclear were excluded from analyses (2% of all questions, n = 68). The Form categories included (1) yes/no questions, (2) forced choice questions, (3) tag or negative term questions, (4) declarative questions, (5) "WH" questions, and (6) other (only . 1% (n = 3) of questions were coded as "other") (Table 2). With respect to vocabulary, we coded each question for whether it included the term(s), (1) truth/not the truth (e.g., "What does the truth mean?"), (2) lie/not a lie (e.g., "Do you tell lies?"), (3) truth and lie ("e.g., Do you know the difference between the truth and a lie?"), or (4) other (e.g., real/pretend/make-believe/fib/story; only 13% of questions were coded as "other"). We coded whether terms were used explicitly (e.g., "Do you know what truth is?") or implicitly (e.g., "What is it?" following a question that explicitly referred to "truth").

We classified all competency questions into whether they asked about the meaning or morality of truth and lies. Meaning questions were further classified as (1) Definition questions; (2) Identification questions, which provided exemplars of a concept; (3) Example

[1]The search string was ("q" "q." "q:")/s (true truth lie lies lying pretend "make believe" story stories fib fibbing "made up" "make up")/50 ("know what it means" "what happens" "what happened" "promise to" "promise not to" "are you going to" "are you gonna" "do you agree to" "do you agree not" "is it good" "good or bad to" "is it bad" "is it a good thing" "have you told" "have you ever told" "will you tell" "would that be" "would it be" "wrong to tell" "get in trouble if" "do you promise" "if I told you" "if I said" "difference between telling" "difference is between telling" "know the difference between" "what does it mean") & child.

questions, which asked the witness to generate exemplars of a concept; or (4) Difference questions, which asked about the difference between truth and lies (Table 3).

Morality questions were further classified as (1) Evaluation questions, which asked whether concepts were positive or negative; or (2) Consequence questions, which asked about the consequences of behavior. In addition, questions asked about whether the child had ever told a lie before we coded as Prior Occurrence questions (see Table 3). Only .5% ($N = 15$) of morality questions did not fall into one of the above mentioned categories.

If the Meaning or Morality question used a hypothetical scenario, the pronoun usage of the speaker was coded for whether the agent in the scenario was either (1) first person, (2) second person, or (3) impersonal or third person pronouns (see Table 4).

Finally, children's responses were coded as either accurate or inaccurate. Accuracy was determined based on whether the statement was logically incorrect (e.g., "If I said the earth is square, would that be a truth or a lie?" Logically one knows the earth is round and thus the correct answer would be "lie"), incorrect from the context (e.g., "Would it be a lie if I said my gown was pink?" Given the context of the courtroom and the judge wearing a black gown the correct answer would be "Yes" or "Would it be a lie if I said your Dad's name was John?" Given previous statements identifying the child's father as "Marcus" the correct answer would be "Yes"), or incorrect based on the questioner's expectations (e.g., "Have you ever told a lie?" The attorney would assume the child had lied at some point in his or her life so the correct answer would be "Yes"). Accurate answers were coded as 1 and inaccurate answers as 0. "I don't know" responses were coded as inaccurate.

Reliability

Inter-rater reliability was calculated for each of the variables (question form, vocabulary categories, explicitness, meaning, morality, hypothetical pronouns, and children's accuracy). Kappa values were above .71 with the exception of the explicitness of terms, which had a kappa value of .63 but a percent agreement of 94%.

Results

A total of 2,727 competency questions were asked of the child witnesses, with 1,291 questions from the Los Angeles cases and 1,436 questions from the U.S. appellate cases. 46% were Meaning questions ($N = 1246$) and 54% were Morality questions ($N = 1481$). Similar distributions of question types were found for both the Los Angeles court cases and U.S. appellate cases. Preliminary analyses were performed with accuracy as the predicted variable, entering data source (where 0 = Los Angles and 1 = U.S. appellate) on the second step of all below described logistic regressions. Results revealed no significant differences between the Los Angeles County sample and the U.S. sample of appellate cases; thus all further analyses were collapsed across samples. In addition, preliminary analyses were performed with accuracy as the predicted variable and entering explicitness (where 0 = explicit and 1 = implicit) on the second step of all below described logistic regressions. Results revealed no significant differences in the explicitness of the questions so all further analyses were collapsed across implicit and explicit questions. Of the 318 Los Angeles court and U.S. appellate child witnesses, 26 of the child witnesses used an interpreter. Preliminary analyses on children's accuracy entering interpreter (0 = interpreter, 1 = interpreter) on the second step of all logistic regressions described later revealed no significant differences in children's accuracy when an interpreter was used compared to when no interpreter was used; thus all further analyses were collapsed across the interpreter variable.

Competency Questions About Meaning

Of the 1,246 Meaning questions, 43% were Identification questions, 40% were Definition questions, 16% were Difference questions, and only 2% were Example questions (see Table 3). Owing to the low frequency of the Example questions, they were excluded from further analysis.

Identification Versus Definition and Difference Questions (Hypothesis 1)—We examined the accuracy of children's responses to the different types of meaning questions. To assess whether children were significantly better at responding to Identification questions compared to Definition or Difference questions a logistic regression was performed. Children's accuracy was entered as the predicted variable (where 0 = accurate, 1 = inaccurate), with age in years entered on the first step followed by meaning question categories (where 1 = Identification, 2 = Definition, and 3 = Difference) on the second step. Preliminary analyses indicated that the interaction between age and meaning question categories was not significant and thus the interaction was excluded from the model. The first model with age was found to be significant, Nagelkerke $R^2 = .09$, $\chi^2(1) = 57.41$, $p < .001$, indicating that as age increased, children were significantly more likely to respond with competent answers, $B = .28$, Wald = 63.48, odds ratio = 1.33, $p < .001$, 95% CIs [1.24, 1.43]. The second Block was also found to be significant, Nagelkerke $R^2 = .13$, $\chi^2(2) = 26.03$, $p < .001$, indicating that meaning question categories significantly contributed to the model above and beyond age. A priori contrasts with Identification questions as the reference group revealed that children were significantly more likely to error in response to Definition questions, $B = -1.00$, Wald = 24.41, odds ratio = .37, $p < .001$ 95% CI [.30, .60]. However, no significant difference was found in children's accuracy rates in response to Difference questions. Specifically, Children erred in response to 21% of the Definition questions, compared to only 9% of the Identification question and 11% of Difference questions (see Table 3). We conducted exploratory analyses to identify the source of the difficulty with the Definition questions. We discovered that 30% of the Definition questions compared to only 7% of Identification and 4% Difference questions were asked in the WH format. We suspected that the WH-questions (e.g., "What is a lie?") would be more difficult than yes–no questions (e.g., "If I said this pen was green, would that be the truth?"), because the former require the child to generate information. However, an independent samples *t* test comparing children's accuracy rates of yes/no to WH questions revealed that children were significantly *more* accurate on WH questions ($M = .85$, $SD = .36$) than yes/no questions ($M = .70$, $SD = .46$), $t(395) = 3.31$, $p < .05$, $d = .33$. We then examined the yes/no Definition questions that children found difficult, and discovered that 92% were in the form of "Do you know…?" (e.g., "Do you know what it means to tell a lie?").

Personal Pronouns in Hypothetical Meaning Questions (Hypothesis 3)—To examine the use of personal pronouns in hypothetical questions, we began by assessing how many questions were asked using hypothetical phrasing. Overall, 447 meaning questions were asked hypothetically. Given that 427 of these questions were Identification questions, we focused our analyses of personal pronoun use on the Identification questions. When examining the Identification questions, we found that 79% of hypothetical Identification questions were asked using first person pronouns (e.g., "If *I* told you…"). Second person pronouns were used 11% of the time, and impersonal and third person pronouns were used 9% of the time. Owing to the low frequency of non-first person pronouns, we were unable to statistically compare the accuracy of children's responses by pronoun use. Descriptively, children's accuracy rates were in the predicted direction, with children being highly accurate when asked questions using impersonal or third person pronouns ($M = .99$, $SD = .06$), somewhat less accurate when asked questions using first person pronouns ($M = .90$, $SD = .$

30), and least accurate when asked questions that used second person pronouns (M = .78, SD = .42).

Questions About the Truth Versus a lie (Hypothesis 4)—To test possible differences in accuracy responding to questions about the "truth" or "lies," we first examined whether "truth" or "lie" questions predominated, excluding questions that asked about both terms simultaneously. We identified 567 questions that asked about the truth/not the truth or a lie/not a lie. Of these questions 63% were about the truth and 37% were about a lie. A nonparametric Chi-square test revealed a significant difference in the rate of truth and lie questions, $\chi^2(1, N = 567) = 37.08$, $p < .001$. To assess whether children's accuracy rates were related to whether meaning questions were asked about the truth or a lie, we conducted a logistic regression. Children's accuracy was entered as the predicted variable (where 0 = accurate, 1 = inaccurate), with age in years entered on the first step followed by whether the question was the truth or a lie (where 0 = truth and 1 = lie). Preliminary analyses indicated that the interaction between age and honesty was not significant, and thus we excluded the interaction from the model. The first model with age was found to be significant, Nagelkerke R^2 = .09, $\chi^2(1) = 32.42$, $p < .001$, indicating that as age increased, children were significantly more likely to respond with accurate answers, B = .29, Wald = 28.36, odds ratio = 1.33, $p < .001$, 95% CIs [1.20, 1.48]. The second Block was not found to be significant, Nagelkerke R^2 = .10, $\chi^2(1) = .39$, $p = .53$. Results revealed no significant difference between children's accuracy in response to questions about the truth (M = .79, SD = .41) or a lie (M = .81, SD = .39).

Competency Questions About Morality

When examining the types of Morality questions asked by the court as well as both defense and prosecution attorneys, we found that of the 1,481 questions 43% (N = 637) were Consequence questions, 22% (N = 318) were Evaluation questions, 16% (N = 233) were Prior Occurrence questions, and 20% (N = 293) fell into the category of "other".

Evaluation Versus Consequence Questions (Hypothesis 2)—We began by examining whether children were significantly more accurate at answering Evaluation questions compared to Consequence questions. A logistic regression was performed with children's accuracy score as the predicted variable (0 = incorrect, 1 = correct). Age in years was entered on the first step followed by morality question type (1 = Evaluation questions, 2 = Consequence questions) on the second step. Preliminary analyses revealed that the age by morality question type interaction was not significant and thus was excluded from the model. The first model was significant, Nagelkerke R^2 = .08, $\chi^2(1) = 37.57$, $p < .001$, indicating that as age increased, children were significantly more accurate at answering morality questions in general, B = .25, Wald = 33.31, odds ratio = 1.29, $p < .001$, 95% CIs [1.19, 1.38]. After controlling for age, Block 2 was also found to be significant, Nagelkerke R^2 = .10, $\chi^2(1) = 11.84$, $p = .001$ indicating that children were significantly less likely to error when answering Evaluation questions than Consequence questions, B = −.78, Wald = 10.72, odds ratio = 2.17, $p = .001$, 95% CIs [.31, .70]. Specifically, children erred 21% of the time in response to Consequence questions compared to 11% of the time in response to Evaluation questions (see Table 3).

Personal Pronouns in Hypothetical Morality Questions (Hypothesis 3)—To examine the use of personal pronouns in hypothetical morality questions we began by assessing how many questions were asked using hypothetical phrasing. Overall, 524 morality questions were asked hypothetically. Given that 518 of these questions were Consequence questions we focused our analyses of personal pronoun use on this category. When examining the Consequence questions, we found that 91% of hypothetical questions

were asked using second person pronouns (e.g., "If *you* told a lie…"). In addition, impersonal or third person pronouns were used 8% of the time, and first person pronouns were used 1% of the time. Owing to the low frequency of non-second person pronouns, we were unable to statistically compare the accuracy of children's responses by pronoun use. Descriptively, children's response accuracy was in the predicted direction with quite high accuracy rates for hypothetical Consequence questions that used impersonal or third person pronouns ($M = .91$, $SD = .19$) but children had some difficulty answering hypothetical Consequence questions that used second person pronouns ($M = .80$, $SD = .40$), and struggled with first person pronouns ($M = .50$, $SD = .55$).

Prior Occurrence Questions (Hypothesis 5)—To assess whether children would admit to previously telling a lie we examined children's responses to the Prior Occurrence questions. A logistic regression was performed with accuracy as the predicted variable [0 = incorrect (denial of ever previously telling a lie), 1 = correct (admission to previously telling a lie)] with age in years entered as the predictor. The model was significant, Nagelkerke $R^2 = .08$, $\chi^2(1) = 11.81$, $p = .001$, indicating that as age increased, children were significantly more accurate at answering Prior Occurrence questions, $B = .23$, Wald = 10.09, odds ratio = 1.26, $p = .001$, CIs [1.12, 1.45]. To further examine these age differences a median split on age was performed. Based on the median split children under the age of 6 were classified as "younger children" and children 7–14 years of age were classified as "older children". An independent samples *t* tests with age as the grouping variable was performed on children's accuracy scores in response to the Prior Occurrence questions. Results revealed that older children ($M = .72$, $SD = .45$) were significantly more accurate at answering the Prior Occurrence question than younger children ($M = .49$, $SD = .50$).

Attorney Differences in Questioning Child Witnesses (Hypothesis 6)

Next we examined whether defense attorneys tended to ask more questions that children had difficulty answering compared to the prosecution or court. For the following analyses, questions asked by the prosecution and court were combined and compared to the defense.

Leading Questions

We began by examining whether defense attorneys asked significantly more leading questions than the prosecution or court. Based on the form of the question, leading questions were classified as tag or negative term questions and declarative questions. A Chi-square analysis was performed and revealed a relation between the questioner (defense vs. prosecution/court) and the number of leading questions, $\chi^2(1, 2611) = 2.49$, $p < .001$, Cramer's $V = .10$. Specifically, the defense asked proportionally more leading questions (20%) compared to the prosecution/court (11%). Next the relation between the questioner and the use of less leading "WH" questions was assessed using a Chi-square analysis comparing the number of "WH" questions compared to "non-WH" questions. However, no significant difference was found for the proportion of "WH" questions asked by the defense (19%) compared to the prosecution/court (22%), $\chi^2(1, 2611) = 1.04$, $p = .31$, Cramer's $V = .02$. Given that attorneys asked "WH" questions approximately 20% of the time, almost 80% of the time they asked closed-ended questions including yes/no, forced-choice, negative term, tag questions, and declarative questions (see Table 2).

Meaning Question Type

Given our previous finding that children have more difficulty answering Definition questions compared to Identification or Difference questions, we examined whether there was a relation between interviewer and Meaning question type. Since there was no significant difference in children's accuracy rates in response to Identification and

Difference questions, these categories were collapsed to compare with Definition questions. To assess whether there was a relation between meaning questions asked (Definition vs. Identification/Difference) and interviewer (defense vs. prosecution/court) a Chi-square analysis was performed. Results revealed that the defense asked proportionally more Definition questions (50%) compared to the prosecution/court (39%), $\chi^2(1, 1172) = 6.80$, $p = .01$, Cramer's $V = .08$.

Morality Question Type

Next, based on our earlier finding that children had more difficulty answering Consequence questions compared to Evaluation questions, we examined whether there was a relation between interviewer and the type of morality questions asked. A Chi-square analysis was performed comparing interviewer (defense vs. prosecution/court) by morality question type (Consequence vs. Evaluation) and revealed that the defense asked proportionally more Consequence questions (85%) compared to the prosecution/court (63%), $\chi^2(1, 916) = 2.72$, $p < .001$, Cramer's $V = .17$.

Prior Occurrence

Finally, we examined interviewer differences (defense vs. prosecution/court) in asking Prior Occurrence questions. A Chi-square analysis revealed a significant relation between interviewer and the rate of Prior Occurrence questions, $\chi^2(1, 1416) = 9.59$, $p < .001$, Cramer's $V = .26$. Specifically, the defense was found to ask proportionally more (34% of all morality questions) Prior Occurrence questions compared to the prosecution/court (11% of all morality questions).

Discussion

This study examined the types of truth–lie competency questions asked by the courts, defense attorneys, and prosecution attorneys as well as children's ability to successfully answer such questions. As we expected, the vast majority of child witnesses were found competent, and children were generally accurate at answering competency questions. This was as anticipated, given the fact that child witnesses are screened before trial, and tend to be over 6 years of age, which makes them well-equipped to demonstrate a basic understanding of truth-telling. Nevertheless, consistent with our hypothesis that the courtroom context would present difficulties, there was substantial variability in accuracy depending on the types of questions asked, and performance improved with age.

With respect to Meaning questions, children were significantly more likely to err in response to Definition questions compared to Identification and Difference questions. Although we predicted that Difference questions would be more difficult than Identification questions, this pattern of results was not found. We anticipated that both Definition and Difference questions would lead to more errors because of the difficulty of generating definitions and differences. However, examining the form of the questions, children erred more on yes/no questions—which merely require a "yes" or a "no"—than WH-questions, and the most frequent errors were in response to "do you know" questions (e.g., "do you know what it means to tell the truth?"). Specifically, children were answering "no" to such questions. We suspect that children may misunderstand the pragmatics of "do you know" questions, which anticipate a "yes" response and an answer to the implied question ("what does it mean?") (Clark, 1979). Children may be accustomed to "do you know" questions as precursors to the provision of information by the adult questioner (cf. "do you know why you are here?"), in which case a "no" response is polite. This is a promising area for further study, because questioners are likely to use the "do you know" frame in many different contexts (Walker, 1999).

With respect to Morality questions, children were significantly more accurate at answering Evaluation questions than Outcome questions, consistent with our prediction. As previously noted, this may be attributable to cognitive or motivational difficulties. Reasoning about evaluation (are lies good or bad) may be simpler than reasoning about consequences (given that lies are good or bad, what will happen when I tell them), and may be less aversive, because imagining negative consequences is likely to be unpleasant.

Consistent with Lyon and Saywitz's (1999) findings of the study involving children up to 7 years of age, the present investigation also found that while there was a general developmental improvement with age, no significant interaction was found between age and question type (for both Meaning and Morality questions). These findings indicate that the difficulty with such questions is consistent across age, even into adolescence. One possible explanation for why children and adolescents demonstrate similar difficulties is that the stressful environment of the courtroom may result in cognitive and motivational difficulties which may impair their performance (e.g., Hill & Hill, 1986–1987; Saywitz & Nathanson, 1993).

We also examined children's accuracy in response to questions about whether they had ever told a lie (Prior Occurrence questions). Although younger children were particularly likely to deny having ever lied, 30% of the older children (7–14 years) did so as well. It is likely that children misunderstood the purpose of the question, which is not to determine whether the child is likely to be lying on this particular occasion (in which case a "no" answer might, from the child's perspective, suggest honesty), but to lay the foundation for a question about the consequences to the child when he or she lied in the past. Ironically, the child's "no" response is itself a lie, which, as we will discuss below, may serve to undermine the child's credibility. There are other possible problems with questions of this sort as well. Questions about whether the child has "ever" performed a misdeed are vague, in that the child has to search a wide range of experiences in order to answer the question, and problematic, because the word "ever" is what linguists refer to as a "negative polarity item." Negative polarity items are words that typically occur in negatively framed declarative sentences (e.g., "I haven't *ever* seen that") and are normally inappropriate in positively framed declarative sentences (e.g., "I have *ever* seen that"; Israel, 1998). Because negative polarity items typically occur in negative contexts, their use in questions has been found to be conducive to a "no" response. For example, the word "any" is another negative polarity item, and Heritage, Robinson, Elliott, Beckett, and Wilkes (2007) found that whereas only 10% of adult patients presenting with multiple complaints answered "no" when asked by their physicians "is there *some*thing else," 50% answered "no" when asked "is there *any*thing else?" Further experimental work can help to tease apart the reasons for children's difficulty with Prior Occurrence questions.

With respect to both Meaning and Morality questions, we were interested in determining if children's accuracy in response to hypothetical questions would vary depending on the pronouns used. We suspected that children might fare worse if they were asked to label their statements or the statements of adult questioners' lies or immoral, as opposed to commenting on statements made by third persons (e.g., "someone"). Because questioners only very rarely asked children questions using an impersonal or third person pronoun, we were not able to systematically test this prediction. Nevertheless, the descriptive accuracies were consistent with our hypothesis. When children were asked Meaning questions about a third person, they erred 1% of the time, compared to 22% of the time when asked about their own statements and 10% of the time when asked about the questioner's statements. When children were asked Morality questions about a third person, they erred 9% of the time, compared to 20% of the time when asked about their own statements and 50% of the time when asked about the questioner's statements.

This study also examined whether prosecutors, judges, and defense attorneys asked different types of questions. Overall, a greater proportion of defense attorney's questions that children found most difficult included Definition Meaning questions, Consequence Morality questions, and Prior Occurrence Morality questions. This might suggest that defense attorneys intentionally asked more difficult questions, either to justify a finding of incompetency or to undermine the credibility of the child (Gray, 1993). Indeed, in a survey of U.S. defense attorneys, two-thirds acknowledged that they would "often" or "always" take advantage of child witnesses' vulnerabilities during cross-examination (Leippe, Brigham, Cousins, & Romanczyk, 1989). On the other hand, if one examines the overall pool of questions, prosecutors (as well as the judges) asked a substantial percentage of the difficult questions: Definition Meaning, 50%; Consequence Morality, 63%; and Prior Occurrence Morality, 52%. This suggests that many of the difficult questions were unwittingly challenging, and that the court players were largely unaware of the most sensitive means of assessing children's understanding.

The potential limitations of the findings should be noted. Our sample of trial transcripts came from only one jurisdiction (Los Angeles County) and a relatively narrow time frame (5 years), and limitations of the computer database and funding prevented us from obtaining all the cases. Fortunately, we were able to obtain virtually all of the acquittals/mistrials, and there is no reason to believe that the convictions we were unable to obtain are systematically different than the convictions in the sample. The appellate court sample may not provide a representative sampling of competency questions, because not all cases are appealed, not all appellate decisions are reported, and the appellate decisions only selectively quote competency questions. The strength of the method was that by combining the two samples, we offset some of the limitations of each. For example, the possibility that Los Angeles is much different than the rest of the United States in its approach, or the likelihood that the appellate cases selected unrepresentative questions, is minimized by the consistency of the findings across both the samples.

Perhaps the most important limitation is that we were unable to determine whether cases were never brought to trial because of prosecutor's judgments implying that the witnesses were incompetent. Hence, our finding that children were rarely if ever found incompetent supports the proposition that the courts do not use the questions to screen out child witnesses, but cannot answer the question whether apparently incompetent child witnesses are screened out earlier. Truth–lie competency questions are frequently asked by investigators (Huffman et al., 1999; Sternberg et al., 2001; Walker & Hunt, 1998), and prosecutors assert that they use success or failure on the competency questions as a factor in deciding whether to file criminal charges (Smith & Elstein, 1993). Although we suspect that some of children's difficulties in our study were attributable to the intimidating context of the courtroom, laboratory research has demonstrated the influence of question-types on children's apparent understanding (e.g., Lyon et al., 2001). It is therefore likely that many of the difficulties encountered by children in court occurred before trial as well. Clearly, there is a need for further research on the types of questions that investigators or prosecutors ask at pre-trial, children's accuracy in response to these questions, and the effects of children's accuracy on subsequent prosecution.

The findings have several implications for practice. First, it seems clear that children's actual understanding of the meaning and morality of truth-telling is underestimated by courtroom questioning. Laboratory research has demonstrated that most children can identify statements as the truth or not and evaluate statements as positive or negative by the time they reach school age (Bussey, 1992, 1999; Talwar et al., 2002), whereas the questions asked in court are leading to errors among substantial percentages of older children. Not only are the questions unnecessarily difficult; many are simply unnecessary. There is no

legal requirement that prosecutors ask children if they know the meaning of truth and lie before testing their understanding. Moreover, questions about whether a child has ever lied are not a necessary prerequisite to asking the child to evaluate truth and lie. Indeed, questions about a child's history of honesty are presumptively inadmissible as character evidence, insofar as they may be used to assess the likelihood that the child is currently telling the truth (Mueller & Kirkpatrick, 2009). The fact that prosecutors, who are hardly inclined to attempt to disqualify their witnesses, nevertheless ask a substantial percentage of the more difficult questions suggests that they would benefit from training regarding sensitive methods for assessing competency.

To the extent that widespread education of court personnel is unlikely to occur, the findings also support growing doubts about the utility of the competency requirements. As noted in the introduction, many nations have abolished the truth–lie competency inquiry, with the notable exception of the United States. Canada, for example, has prohibited questions about the meaning of truth and lies and only requires that child witnesses promise to tell the truth (Bala, Evans, & Bala, 2010). These changes have been motivated, at least in part, by research demonstrating a lack of relation between children's truth–lie understanding and their honesty or eyewitness abilities (Goodman, Aman, & Hirshman, 1987; London & Nunez, 2002; Pipe & Wilson, 1994; Talwar et al., 2002), and research finding that eliciting a promise to tell the truth increases honesty (Lyon & Dorado, 2008; Lyon, Malloy, Quas, & Talwar, 2008; Talwar, Lee, Bala, & Lindsay, 2004; Talwar et al., 2002). Although there is support for the proposition that children who better understand the meaning of "truth" are more likely to be influenced when asked to "promise to tell the truth" (Lyon & Dorado, 2008; Lyon et al., 2008; Talwar et al., 2004), children who fail truth–lie tasks are nevertheless likely to be influenced by a promise, suggesting that even laboratory tasks underestimate children's actual understanding. Hence, the courts might do well to move away from attempts to assess children's understanding and towards administering a child-friendly version of the oath.

A final implication of the research concerns how competency questions might affect the jurors' assessment of children's credibility. Although a request by a party to assess the child's truth–lie competency outside the presence of the jury is likely to be granted, few states have a per se rule that the jury must be excluded, and trial courts are required to do so only if the "interests of justice require" (*People v. Wittrein*, 2009, p. 1080). In the Los Angeles sample, the jury was excluded in only 13% of the 164 cases. Ten cases were preliminary hearings, which are held without a jury, and the court excused the jury at trial in another 11 cases. In five of those cases, some competency questions were nevertheless also asked in front of the jury. Although there is little research on the subject, the inclusion of a competency inquiry in which children correctly answer questions increases jurors' ratings of child witnesses' credibility (Connolly, Gagnon, & Lavoie, 2008), making it reasonable to infer that errors decrease credibility. Overall, the present investigation demonstrates that children are rarely found incompetent to testify. However, children's performance on the competency exam varied greatly based on the type of question asked. These findings suggest that children's truth-lie competency is underestimated by the types of questions asked in the courtroom and sheds doubt on the utility of the competency requirements.

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References

Bala N, Evans A, Bala E. Hearing the voices of children in Canada's criminal justice system: Recognizing capacity and facilitating testimony. Child and Family Law Quarterly. 2010; 22:21–45. http://www.jordanpublishing.co.uk/.

Brewer KD, Rowe DM, Brewer DD. Factors related to prosecution of child sexual abuse cases. Journal of Child Sexual Abuse. 1997; 6:91–111.10.1300/J070v06n01_07

Bussey K. Lying and truthfulness: Children's definitions, standards, and evaluative reactions. Child Development. 1992; 63:129–137.10.2307/1130907

Bussey K. Children's categorization and evaluation of different types of lies and truths. Child Development. 1999; 70:1338–1347.10.1111/1467-8624.00098

California Evidence Code. 2010

California Government Code 6250. 2010

Cashmore J, Bussey K. Judicial perceptions of child witness competence. Law and Human Behavior. 1996; 20:313–334.10.1007/BF01499026

Cashmore, J.; DeHaas, N. Australian Law Reform Commission Research Paper No. 1. 1992. The use of closed-circuittelevision for child witnesses in the act.

Clark HH. Responding to indirect speech acts. Cognitive Psychology. 1979; 11:430–477.10.1016/0010-0285(79)90020-3

Connolly DA, Gagnon NC, Lavoie JA. The effect of a judicial declaration of competence on the perceived credibility of children and defendants. Legal and Criminological Psychology. 2008; 13:257–277.10.1348/135532507X206867

Davies, G.; Noon, E. An evaluation of the live link for child witnesses. London: Home Office; 1991.

Davies E, Seymour FW. Questioning child complainants of sexual abuse: Analysis of criminal court transcripts in New Zealand. Psychiatry, Psychology, and Law. 1998; 5:47–61.10.1080/13218719809524919

Davies, GM.; Wilson, JC.; Mitchell, R.; Milson, J. Videotaping children's evidence: An evaluation. London: Home Office; 1995. http://rds.homeoffice.gov.uk/rds/pdfs2/r20.pdf

Estate of Hearst v. Leland Lubinski, 67 Cal.App.3d 777 (1977).

Evans AD, Lee K, Lyon TD. Complex questions asked by defense attorneys but not prosecutors predicts convictions in child abuse trials. Law and Human Behavior. 2009; 33:258–264.10.1007/s10979-008-9148-6 [PubMed: 18633698]

Flin, R.; Bull, R.; Boon, J.; Knox, A. Children in the witness-box. In: Dent, H.; Flin, R., editors. Children as witnesses. Chichester, UK: Wiley; 1992. p. 167-179.

Goodman, GS.; Aman, CJ.; Hirschman, J. Child sexual and physical abuse: Children's testimony. In: Ceci, SJ.; Toglia, MP.; Ross, DF., editors. Children's eyewitness memory. New York: Springer-Verlag; 1987. p. 1-23.

Goodman GS, Taub EP, Jones DPH, England P, Port LK, Rudy L, Prado L. Testifying in court: Emotional effects on child sexual assault victims. Monographs of the Society for Research in Child Development. 1992; 57:1–162. http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1540-5834/issues. [PubMed: 1470193]

Goodman GS, Tobey AE, Batternam-Faunce JM, Orcutt H, Thomas S, Shapiro C, Sachsenmaier T. Face-to-face confrontation: Effects of closed-circuit technology on children's eyewitness testimony and jurors' decisions. Law and Human Behavior. 1998; 22:165–203.10.1023/A:1025742119977 [PubMed: 9566121]

Gray, E. Unequal justice: The prosecution of child sexual abuse. New York: Free Press; 1993.

Haugaard JJ, Reppucci ND, Laird J, Nauful T. Children's definitions of the truth and their competency as witnesses in legal proceedings. Law and Human Behavior. 1991; 15:253–271.10.1007/BF01061712

Heritage J, Robinson JD, Elliott MN, Beckett M, Wilkes M. Reducing patient's unmet concerns in primary care: The difference one word can make. Journal of General Internal Medicine. 2007; 22:1429–1433.10.1007/s11606-007-0279-0 [PubMed: 17674111]

Hill PE, Hill SM. Videotaping children's testimony: An empirical view. Michigan Law Review. 1986–1987; 85:809–833. http://www.michiganlawreview.org/.

Home Office. Achieving best evidence in criminal proceedings: Guidance for vulnerable or intimidated witnesses, including children. London: Author; 2001.

Huffman ML, Warren AR, Larson SM. Discussing truth and lies in interviews with children: Whether, why, and how? Applied Developmental Science. 1999; 1:6–15.10.1207/s1532480xads0301_2

Israel M. Ever: Polysemy and polarity sensitivity. Linguistic Notes from La Jolla. 1998; 19:29–45. http://terpconnect.umd.edu/~israel/publications.html.

Larooy D, Lamb ME, Memon A. Forensic interviews with children in Scotland: A survey of interview practices among police. 2011; 26:2–34.10.1007/s11896-010-9072-9

Leippe, MR.; Brigham, JC.; Cousins, C.; Romanczyk, A. The opinions and practices of criminal attorneys regarding child eyewitnesses: A survey. In: Ceci, SJ.; Ross, DF.; Toglia, MP., editors. Perspectives on children's testimony. New York: Springer-Verlag; 1989. p. 100-130.

London K, Nunez N. Examining the efficacy of truth/lie discussions in predicting and increasing the veracity of children's reports. Journal of Experimental Child Psychology. 2002; 83:131–147.10.1016/S0022-0965(02)00119-4 [PubMed: 12408959]

Lyon, TD. Assessing the competency of child witnesses: Best practice informed by psychology and law. In: Lamb, ME.; La Rooy, D.; Katz, C.; Malloy, LC., editors. Children's testimony: A handbook of psychological research and forensic practice. Cambridge, UK: Cambridge University Press; (in press)

Lyon TD, Carrick N, Quas JA. Young children's competency to take the oath: Effects of task, maltreatment, and age. Law and Human Behavior. 2010; 34:141–149.10.1007/s10979-009-9177-9 [PubMed: 19263199]

Lyon, TD.; Carrick, N.; Quas, JA. Right and righteous: Children's incipient understanding and evaluation of true and false statements. (under review)

Lyon TD, Dorado J. Truth induction in young maltreated children: The effects of oath-taking and reassurance on true and false disclosures. Child Abuse and Neglect. 2008; 32:738–748.10.1016/j.chiabu.2007.08.008 [PubMed: 18599119]

Lyon TD, Malloy LC, Quas JA, Talwar V. Coaching, truth induction, and young maltreated children's false allegations and false denials. Child Development. 2008; 79:914–929.10.1111/j.1467-8624.2008.01167.x [PubMed: 18717898]

Lyon TD, Saywitz KJ. Young maltreated children's competence to take the oath. Applied Developmental Science. 1999; 3:16–27.10.1207/s1532480xads0301_3

Lyon TD, Saywitz KJ, Kaplan DL, Dorado JS. Reducing maltreated children's reluctance to answer hypothetical oath-taking competency questions. Law &Human Behavior. 2001; 25:81–92.10.1023/A:1005644010134 [PubMed: 11276863]

Morey RW. The competency requirement for the child victim of sexual abuse: Must we abandon it? University of Miami Law Review. 1985; 40:245–284. http://www.law.miami.edu/studentorg/miami_law_review/index.php.

Mueller, CB.; Kirkpatrick, LC. Evidence. 4. Austin, TX: Wolters Kluwer; 2009.

People v. Wittrein, 221 P.3d 1076 (Colo. 2009).

Peterson CC, Peterson JL, Seeto D. Developmental changes in ideas about lying. Child Development. 1983; 54:1529–1535.10.2307/1129816 [PubMed: 6661946]

Pipe M, Wilson JC. Cues and secrets: Influences on children's event reports. Developmental Psychology. 1994; 30:515–525.10.1037/0012-1649.30.4.515

Richards, P.; Morris, S.; Richards, E. Turning up the volume: The Vulnerable Witnesses (Scotland) Act 2004. Edinburgh: Scottish Government Social Research; 2008.

Saywitz K, Nathanson R. Children's testimony and their perceptions of stress in and out of the courtroom. Child Abuse and Neglect. 1993; 17:613–622.10.1016/0145-2134(93)90083-H [PubMed: 8221216]

Smith, SE.; Elstein, GS. The prosecution of child sexual and physical abuse cases. Washington, DC: American Bar Association Fund for Justice and Education; 1993.

Sternberg K, Lamb M, Orbach Y, Esplin P, Mitchell S. Use of a structured investigative protocol enhances young children's responses to free-recall prompts in the course of forensic interviews. Journal of Applied Psychology. 2001; 86:997–1005.10.1037/0021-9010.86.5.997 [PubMed: 11596815]

Stroud DD, Martens S, Barker J. Criminal investigation of child sexual abuse: A comparison of cases referred to the prosecutor to those not referred. Child Abuse and Neglect. 2000; 24:689–700.10.1016/S0145-2134(00)00131-9 [PubMed: 10819100]

Talwar V, Lee K, Bala N, Lindsay RCL. Children's conceptual knowledge of lying and its relation to their actual behavior: Implications for court competence examinations. Law and Human Behavior. 2002; 26:395–415.10.1023/A:1016379104959 [PubMed: 12182530]

Talwar V, Lee K, Bala N, Lindsay RCL. Children's lie-telling to conceal a parent's transgression: Legal implications. Law and Human Behavior. 2004; 28:411–435.10.1023/B:LAHU.0000039333.51399.f6 [PubMed: 15499823]

Walker, AG. Handbook on questioning children: A linguistic perspective. 2. Washington, DC: American Bar Association; 1999.

Walker, NE.; Hunt, JS. Interviewing child victim-witnesses: How you ask is what you get. In: Thompson, CP.; Herrmann, DJ.; Read, JD.; Bruce, D.; Payne, DG.; Toglia, MP., editors. Eyewitness memory: Theoretical and applied perspectives. Mahwah, NJ: Lawrence Erlbaum Associates; 1998. p. 55-87.

Westcott HL, Kynan S. Interviewer practice in investigative interviews for suspected child sexual abuse. Psychology, Crime & Law. 2006; 12:367–382.10.1080/10683160500036962

Zajac R, Gross J, Hayne H. Asked and answered: Questioning children in the courtroom. Psychiatry, Psychology and Law. 2003; 10:199–209.10.1375/132187103322300059

Zajac R, Hayne H. The negative effect of cross-examination style questioning on children's accuracy: Older children are not immune. Applied Cognitive Psychology. 2006; 20:3–16.10.1002/acp.1169

Table 1

Whether children were asked competency questions by age group (Los Angeles sub-sample)

Age groups	Competency asked	Total
4–6 years	19 (90%)	21
7–9 years	67 (89%)	75
10–12 years	59 (47%)	125
13–15 years	18 (13%)	138
16–18 years	0 (0%)	43
Unknown	1 (6%)	16
Total	164	418[a]

[a]Two children between 4 and 5 years of age were found unavailable before any competency questions were asked

Table 2

Form of question and percentages of each form asked by defense and prosecution/court

Form	Example	Total percentage of questions	Percentage of questions asked by defense	Percentage of questions asked by prosecution/court
Yes/no	"Is it good to lie?"	47	54	46
Forced choice	"Is it good or bad to lie?"	18	6	21
Tag or negative term	"It was a lie, wasn't it?" or "Wasn't it a lie?"	5	9	4
Declarative	"It was a lie?"	8	12	7
WH-	Who, What, When, Why or How questions	22	19	22

Note: Percentages are based on total of 2,727 questions

Table 3

Meaning and Morality codes, percentage of questions asked of each code, and error rates

Categories	Codes	Example	Percentage of questions within category	Error rate (%)
Meaning	Definition	"Do you know what it means to tell a lie?"	40	21
	Identification	"If I said my gown is green would that be a lie?"	43	9
	Difference	"Do you know the difference between the truth and a lie?"	16	11
	Example	"Tell me something you have lied about?"	2	37
Morality	Evaluation	"Is it good to tell the truth?"	27	11
	Consequence	"Does anything happen to someone who tells a lie?"	53	21
	Prior occurrence	"Have you ever told a lie?"	19	41

Note: Percentages were based on 1,246 Meaning questions and 1,481 Morality questions

Table 4

Hypothetical pronouns and percentage questions asked using each category by meaning and morality questions

Pronouns	Example	Percentage of hypothetical questions	
		Meaning	Morality
First person	I	79	1
Second person	You	11	91
Impersonal or third person	Somebody, he/she, or they	9	8

Note: Percentages are based on 427 meaning hypothetical questions and 518 morality hypothetical questions