Question Types, Responsiveness and Self-contradictions When Prosecutors and Defense Attorneys Question Alleged Victims of Child Sexual Abuse

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Abstract

We examined 120 trial transcripts of 6- to 12-year-old children testifying to sexual abuse. Age and attorney role were analyzed in relation to question types, children's responsiveness, and self-contradiction frequency. A total of 48,716 question-response pairs were identified. Attorneys used more closed-ended than open-ended prompts. Prosecutors used more invitations (3% vs. 0%), directives and option-posing prompts than defence attorneys, who used more suggestive prompts than prosecutors. Children were more unresponsive to defence attorneys than to prosecutors. Self-contradictions were identified in 95% of the cases. Defence attorneys elicited more self-contradictions than prosecutors, but nearly all prosecutors (86%) elicited at least one self-contradiction. Suggestive questions elicited more self-contradictions than any other prompt type. There were no associations with age. These findings suggest that neither prosecutors nor defence attorneys question children in developmentally appropriate ways.

Question Types, Responsiveness and Self-contradictions When Prosecutors and Defence Attorneys Question Alleged Victims of Child Sexual Abuse

In adversarial jurisdictions, such as the USA, UK and New Zealand, jurors often place a strong emphasis on report consistency when assessing the accuracy and veracity of oral testimony provided by witnesses (e.g., Bruer & Pozzulo, in press; Myers, Redlich, Goodman, Prizmich, & Imwinkelried, 1999; Semmler & Brewer, 2002). Although inconsistencies are reported by judges to have a small effect on trial outcomes (Connolly, Price, & Gordon, 2009), self-contradictory or nonsensical responses may affect decisions by reducing children's testimonial credibility (Home Office, 2011, section 2.214).

Informed by psychological research, best-practice guidelines for forensic interviewers discourage the use of techniques (e.g., misleading questions) that might undermine children's consistency (American Professional Society on the Abuse of Children [APSAC], 2012; Home Office, 2011, section 3.44; Lamb, Hershkowitz, Orbach, & Esplin, 2008). However, very limited guidance exists regarding the ways in which attorneys should question children when they are examined and cross-examined in court. The guidance that does exist is vague, open to interpretation and neither well embraced nor empirically supported (see Spencer & Lamb, 2012). For example, guidelines in England and Wales state that judges "have a responsibility to ensure that all witnesses…are enabled to give their best evidence" (Home Office, 2011, section 5.8). However, despite recent efforts to change prevailing practices in England and Wales (see Criminal Practice Directions, 2013, section 3E.4), defence attorneys are permitted to ask children misleading questions in cross-examination to test the evidence, a technique that directly contravenes established principles for eliciting accurate responses from children (Henderson, 2002) and consequently does

not give children the opportunity to "give their best evidence". In the United States, judges are similarly expected to "exercise reasonable control over the mode and order of examining witnesses" so as to "make those procedures effective for determining the truth" (Federal Rules of Evidence, 2014, section 611). Moreover, special protections are sometimes provided for child witnesses. In California, for example, judges are expected to "take special care to ensure that questions are stated in a form which is appropriate to the age or cognitive level of the witness" (California Evidence Code, 2014, section 765). Nevertheless, attorneys are allowed to ask children leading questions when they appear reluctant to respond, and leading questions are routinely allowed in cross-examination (Mueller & Kirkpatrick, 2012). There is, consequently, growing international concern as to whether justice can be reliably achieved when witnesses are questioned in ways that exploit their immaturity and may thus elicit unreliable evidence (see Spencer & Lamb, 2012).

However, to date there has been no large-scale empirical field research on this topic. In the present study, question-response pairs were examined to explore whether children's responsiveness and the consistency of their testimony were affected by the types of questions they were asked by both prosecutors and defence attorneys, and whether this differed depending on their ages.

Question Types and Children's Responses: Lessons from Psychological Research

The question types used to elicit accounts of children's experiences affect both the quantity and quality of the information obtained (see Saywitz, Lyon, & Goodman, 2011; Lamb, Malloy, Hershkowitz, & La Rooy, in press; Lamb, La Rooy, Malloy, & Katz, 2011, for reviews). On the one hand, when questioned with open-ended free-recall prompts (e.g., "Tell me what happened."), children provide accounts that may be brief but are more likely to be accurate. Additional open-ended prompts can be

used to follow-up and thus elicit elaborations or further details (e.g., “You mentioned [person/object/action]. Tell me more about that.”; “Then what happened?”). Even though younger children may produce shorter and less detailed accounts of experienced events in response to open-ended questions than older children and adults (e.g., Eisen, Goodman, Qin, Davis, & Crayton, 2007; Hershkowitz, Lamb, Orbach, Katz, & Horowitz, 2012; Lamb, Sternberg, Orbach, Esplin, Stewart, & Mitchell, 2003), their reports are no less accurate (e.g., Jack, Leov, & Zajac, 2014; Sutherland & Hayne, 2001). On the other hand, the probability of erroneous responses increases considerably when children are questioned using closed-ended recognition prompts (e.g., “Did he touch you with his fingers?”; “Was this during the day or at night?”), due to false recognition of details and response biases (e.g., Jones & Pipe, 2002; Lamb, Orbach, Hershkowitz, Horowitz, & Abbott, 2007). Younger children are more likely than older children and adults to provide erroneous details in response to closed-ended questions (e.g., Waterman, Blades, & Spencer, 2001, 2004; see Melnyk, Crossman, & Scullin, 2007, for a review).

Suggestive prompts are most problematic because children may change details in their accounts and thus respond inconsistently, either by incorporating suggested information into their memories of experienced events or acquiescing to perceived interviewer coercion (e.g., Eisen, Qin, Goodman, & Davis, 2002; Lamb & Fauchier, 2001; Orbach & Lamb, 2001). Young children, particularly preschoolers, are more susceptible to suggestion than are older children and adults (for reviews see Bruck & Ceci, 1999; Bruck, Ceci, & Principe, 2006; London & Kulkofsky, 2010).

To minimize the risk of eliciting erroneous information, therefore, best-practice guidelines for forensic interviewers encourage maximal reliance on free-recall open-ended prompts, advise against the use of closed-ended ‘yes/no’ questions, and

strongly discourage suggestive utterances (APSAC, 2012; Home Office, 2011, section 3.44; Lamb et al., in press).

However, there is a fundamental conflict between government policies that aim to elicit children's 'best-evidence' and the aims of courtroom questioning in adversarial jurisdictions, such as the United States, where the cases examined in the present study were conducted (see Spencer & Lamb, 2012). In such adversarial jurisdictions, the defence's cross-examination of witnesses is often deemed to be essential. Indeed, the Sixth Amendment to the U.S. Constitution states that "the accused shall enjoy the right…to be confronted with the witnesses against him" and a similar provision is outlined in Article 6 of the European Convention on Human Rights. In adversarial jurisdictions attorneys are motivated to undermine the opponents' witnesses, and they question child witnesses accordingly. In particular, defence cross-examinations aim to persuade child witnesses to change details in their accounts, often by exploiting their developmental limitations and deliberately violating guidelines based on research outlining the best ways to elicit truthful testimony (see Rush, Quas, & McAuliff, 2012; Spencer & Lamb, 2012). This raises serious questions about the extent to which cases are dealt with justly.

An expanding body of qualitative (e.g., Hayes & Bunting, 2013, Plotnikoff & Woolfson, 2009) and laboratory quantitative (e.g. Bettenay, Ridley, Henry, & Crane, in press; O'Neill & Zajac, 2013; Righarts, O'Neill, & Zajac, 2013) research has explored these issues, motivated in large part by concerns about the ways in which alleged victims of child sexual abuse are examined and cross-examined. However, to date there have been no large-scale field studies documenting whether and how children of different ages respond differently to the questions asked by prosecutors and defense attorneys.

Types of Questions

Several recent studies examining how children are questioned in court have been conducted using small numbers of court transcripts from New Zealand (Hanna, Davies, Crothers, & Henderson, 2012 [18 cases]; Zajac & Cannan, 2009 [15 cases]; Zajac, Gross, & Hayne, 2003 [21 cases]) and the United States (Klemfuss, Quas, & Lyon, in press [42 cases]). Stolzenberg and Lyon (2014) examined 72 cases, but limited their focus to questions about child-adult conversations. Although these studies have generally found that prosecutors ask more open-ended questions than defence attorneys, and defence attorneys ask more suggestive questions than prosecutors, there is some inconsistency in results. Whereas Zajac et al. (2003) found that prosecutors asked more open-ended questions than closed-ended questions, other studies have found that both prosecutors and defence attorneys predominantly asked questions that could be answered "yes" or "no." (Hanna et al., 2012; Klemfuss et al., in press; Stolzenberg & Lyon, 2014; Zajac & Cannan, 2009). Moreover, Hanna et al. (2012), Zajac et al. (2003) and Zajac & Cannan (2009) did not distinguish between open-ended invitations (e.g., "what happened next?") and directive questions (e.g., "what color was the car?"), and the only study in which different types of open-ended questions were distinguished reported no invitations at all (Klemfuss et al., in press).

Because younger children are generally more susceptible to suggestion and may produce shorter and less detailed accounts of experienced events than older children, it seems likely that attorneys would ask children of different ages different types of questions. However, the results of previous studies have again been somewhat inconsistent. Zajac et al. (2003) found no significant differences associated with children's ages and the types of questions used by both prosecutors and defence attorneys. Klemfuss et al. (in press) unexpectedly found that, with age, there was a

significant decrease in the use of option-posing questions and an increase in the use of suggestive questions. In contrast, Stolzenberg and Lyon (2014) found that attorneys were slightly more likely to ask younger children yes-no questions.

The reason for the differences among studies is unclear. The studies were conducted in California and New Zealand, but because the findings were sometimes inconsistent between studies in the same jurisdiction, jurisdictional differences are clearly not sufficient to account for the inconsistencies. We suspected that they were attributable to methodological differences and to the small numbers of cases included in previous studies. The small sample sizes might have been especially problematic with respect to age-of-child differences.

Children's Responses

Little research has focused on children's responsiveness to attorney's questions. In research of this sort, responsiveness refers to the child's willingness to acknowledge and attempt to engage with the question posed, either by narrowly responding to the question or by providing more information than was technically requested. By contrast, unresponsiveness would involve not answering or proving a response unrelated to the question asked. Research on forensic interviews has shown that children who make allegations of abuse are responsive to almost all the questions addressed to them (REFS). Children appear to be responsive in the courtroom, too. Klemfuss et al. (in press) found that child witnesses were more often responsive than unresponsive and that, with increasing age, children elaborated more (i.e., provided more information than was requested, for example in response to yes/no questions) in response to prosecutors' questions than defense attorneys' questions. Older children elaborated more in response to open-ended directive and closed-ended option-posing questions than did younger children, but there were no such differences with respect

to suggestive questions. Unfortunately, the actual age range was unspecified, although the children averaged 12 years old.

There is considerable concern about the extent to which testifying children might contradict themselves in court. Many laboratory analogue studies that can establish the accuracy of children's responses have shown that children are more likely to change their correct responses when cross-examined suggestively than when questions are simply repeated (e.g., Jack & Zajac, in press; Fogliati & Bussey, 2014; Zajac & Hayne, 2003). For example, Fogliati and Bussey (2014) interviewed 120 5- and 7-year-old children twice about a staged transgression. All children first underwent a direct-examination and then either a second direct- or cross-examination immediately afterwards. Children interviewed by the researchers in the direct/direct condition were equally accurate in the two interviews, whereas children in the direct/cross condition were significantly less accurate when cross-examined. Although some researchers have also shown that, consistent with the suggestibility literature, these effects are stronger for younger than for older children (e.g., Bettenay et al., in press; Zajac & Hayne, 2006), Fogliati and Bussey (2014) reported no age differences in the number of errors elicited in cross-examinations, perhaps because the age difference between the groups was so small.

Much less is known about age differences in children's responses to direct- and cross-examination questions in real court cases in which children were questioned about personally significant and emotionally salient events. In New Zealand, Zajac et al. (2003) found that, regardless of age, children made no changes to their earlier statements in response to questions from prosecutors. However, 76% of the children made changes under cross-examination, with 95% of these changes made in response to leading or credibility-challenging prompts. Moreover, Zajac and Cannan (2009)

reported that both child and adult complainants were more likely to change their statements in response to questions from the defence than the prosecution. All of the adults and 93% of the children made at least one change to their earlier statements during cross-examination. Zajac and Cannan (2009) did not report the percentage of cases in which prosecutors elicited self-contradictions.

As noted above, previous studies (e.g., Klemfluss et al., in press; Zajac & Cannan, 2009; Zajac et al., 2003) have yielded inconsistent findings regarding the effects of children's ages on the ways in which they are questioned in court and it is not clear whether children of different ages are more likely to change their answers when questioned, probably because the studies have involved very small samples. Zajac et al. (2003), for example, were only able to compare 10 children who were under 10 years of age with 11 who were 10 and over. In addition, studies that analyze self-contradictions (i.e., Zajac & Cannan, 2009; Zajac et al., 2003) have been conducted exclusively in New Zealand where pre-recorded forensic interviews comprise the bulk of children's direct testimonies. Since the researchers did not have access to the forensic interviews, they were unable to identify self-contradictions in which the child's in-court testimony contradicted statements in the forensic interview.

Present Study

The current study was designed to investigate how and whether different questions types were associated with witness responses and self-contradictions in a large sample of Californian criminal trial transcripts involving 120 children aged 6 to 12 years. Specifically, child age and attorney role (prosecution/defence) were examined in relation to (1) the types of questions asked, (2) children's responsiveness, and (3) the frequency of self-contradictions. Self-contradictions were then further analyzed in relation to the proportions of question types that elicited self-

contradictions. Based on the research reviewed above, it was predicted that: I) attorneys would use more closed-ended than open-ended questions, II) defence attorneys would be more likely than prosecutors to use suggestive prompts, III) these effects would be more detrimental for younger children than for older children, IV) defence attorneys would be more likely than prosecutors to elicit self-contradictions (because they used more suggestive questions), and V) suggestive prompts would be more likely than any other question type to elicit self-contradictions.

Method

Sample

Transcripts of 106 trials involving 120 alleged victims of child sexual abuse were included in the study. These were selected from a larger set of 223 transcripts drawn from all felony child sexual abuse cases involving female victims under the age of 18 that went to trial to Los Angeles County between 1997 and 2001. We examined all cases that involved children aged 12 and under at the time of trial. The trials involved 68 different prosecutors and 88 different defence attorneys.

Children reported single (n = 43) or multiple (n = 77) sexually abusive experiences involving penetration (n = 53), touching under clothes (n = 37), touching over clothes (n = 21) and indecent exposure (n = 9). The final sample included 98 girls and 22 boys who were categorized on the basis of age at the time of trial into 2 groups: 6- to 9-year-olds (n = 54) and 10- to 12-year-olds (n = 66). No information was available concerning the children's socioeconomic and ethnic backgrounds.

All defendants were male. In 90% (n = 108) of the cases, the alleged abusers were known to the children. The suspects were biological parents (n = 10), step-fathers/mothers' boyfriends (n = 23), other family members (n = 24), family friends

(*n* = 23), acquaintances (*n* = 28) and strangers (*n* = 12). Defendants were either convicted (*n* = 89) or acquitted (*n* = 25). The remaining 6 cases resulted in mistrials.

Coding of Transcripts

The transcripts contained direct and often redirect examinations, in which the prosecution questioned the children, and cross and often recross examinations, in which the defence questioned the children. Only the substantive question-response pairs were coded. Substantive utterances were defined as those designed to elicit information about what happened during the alleged incidents, what immediately preceded the alleged incidents, within-incident interventions (e.g., unexpected interruptions exposing the abuse), and other features of the abuse (e.g., how long the incidents lasted, where they happened). Children's substantive responses contained incident-related information. Non-substantive prompts that aimed to inform child witnesses about the purpose of the court proceedings, provide details about the examination procedure and build rapport were not included. By definition, children's non-substantive responses did not contain incident-related information and were also not included.

Attorneys' questions. Attorneys' questions were categorized into one of the four main categories that are commonly used to differentiate between interviewer utterances in forensic interviews (e.g., Lamb et al., 2008). Examples of each type are provided in Table 1.

1. ***Invitations.*** Open-ended, input-free utterances used to elicit free-recall responses from children. Such questions, statements, imperatives, or contextual cues do not restrict the child's focus except in a general sense. Invitations can also follow-up on information just mentioned, or cue for additional free-recall elaboration about details previously mentioned.

2. ***Directive prompts.*** Open-ended questions that refocus the child on aspects or details of the allegation that they have previously mentioned, mostly using 'WH' utterances to request further information.
3. ***Option-posing prompts.*** Closed-ended questions that refocus the child's attention on details of the allegation that they have not previously mentioned, although without implying an expected response. They can be formulated as "yes/no" or "choice" questions.
4. ***Suggestive prompts.*** Closed-ended statements or questions formulated in a way that communicates the expected response. They may introduce information not mentioned by the child but assumed by the attorney or query the truthfulness of the child's response.

Children's responsiveness. Children's responsiveness was categorized exhaustively into one of two categories. Examples of each category are provided in Table 1.

1. ***Responsive.*** Verbal and action responses related to the attorney's previous utterance. Utterances were assigned this category even if they did not contain new informative details, or when their meaning was unclear. For example, the response "I don't know" would be responsive.
2. ***Unresponsive.*** Responses that do not relate to the question asked in the previous attorney utterance, but provide incident-related information. These include instances when children misunderstood the attorneys' questions.

Self-contradictions. Self-contradictions were defined as responses that negated what the children had previously disclosed during the proceedings or provided self-conflicting information (see Table 1).

Interrater Reliability

Another rater independently coded 20% of the transcripts that were randomly selected. Inter-rater reliability in the classification of question types was high, $K = .91$ ($SE = .01$), 95% CI [.89, .93], as was the agreement when coding children's responsiveness, $K = .91$ ($SE = .01$), 95% CI [.89, .93]. The agreement when identifying self-contradictions in children's responses was also high, $K = .83$ ($SE = .05$), 95% CI [.73, .93]. Reliability assessments were performed throughout the duration of coding and all disagreements were resolved by discussion.

Results

A total of 48,716 substantive question-response pairs ($M = 406.97$, $SD = 338.92$) were identified. Prosecutors' examinations ranged in length from 29 to 1430 substantive question-response pairs ($n = 26{,}548$, $M = 221.23$, $SD = 193.29$), whereas defence attorneys' examination ranged in length from 7 to 1378 substantive question-response pairs ($n = 22{,}168$, $M = 184.73$, $SD = 179.51$). There was a significant correlation between the length of the prosecutors' and defence attorneys' examinations, $r\,(118) = .64$, $p < .01$.

A one-way Multivariate Analysis of Variance (MANOVA) revealed no association between the age of the children (6- to 9- and 10- to 12-year-olds) and the length of the prosecutors' examinations, $F\,(1, 118) = 2.76$, $p = .10$, $\Lambda = .02$, or the defence attorneys' examinations, $F\,(1, 118) = .08$, $p = .08$, $\Lambda = .78$. Hereafter, proportional values are used in order to control for the total number of questions the prosecutors and defence attorneys asked.

Attorneys' Questions

Table 2 presents descriptive statistics for proportions of question types used by prosecution and defence attorneys.

A Repeated-Measures Analysis of Variance (RM-ANOVA) was conducted to assess the difference between the types of questions asked (repeated-measures; proportions of questions that were invitations, directives, option-posing and suggestive prompts) and attorneys' role (repeated-measures; prosecution and defence), and whether this effect differed depending on the age of the children (between-subjects; 6- to 9- and 10- to 12-year-olds). The analyses revealed a significant main effect for the different types of questions asked, F (1.8, 210.4) = 872.91, $p < .001$, $\eta^2_p = .88$, which was qualified by a significant interaction between the types of questions prosecution or defence attorneys asked, F (1.8, 210.4) = 281.51, $p < .001$, $\eta^2_p = .71$. There was a significant interaction between the types of questions asked and age, F (1.8, 210.4) = 3.73, $p = .03$, $\eta^2_p = .03$. Examination of the means suggested that 6- to 9-year-olds were asked more option posing questions (M = .51, SD = .01) than 10- to 12-year-olds (M = .47, SD = .01) and fewer suggestive questions (M = .15, SD = .01) than 10- to 12-year-olds (M = .41, SD = .01). The means for invitations (M = .02, SD = .00) and directives (M = .21, SD = .01) were the same for 6- to 9-year-olds and 10- to 12-year-olds. However, none of the differences were statistically significant after Bonferroni adjustment for multiple comparisons (adjusted alpha level = .006). There were no other significant main or interaction effects.

A simple effects analysis was calculated to follow-up the attorney by question type interaction. Prosecutors were significantly more likely to use invitations, F (1, 119) = 121.84, $p < .001$, $\eta^2_p = .55$, directive questions, F (1, 119) = 1761.25, $p < .001$, $\eta^2_p = .94$, and option-posing questions, F (1, 119) = 4645.39, $p < .001$, $\eta^2_p = .98$, than defence attorneys. On the other hand, defence attorneys were significantly more likely to use suggestive questions than prosecutors, F (1, 119) = 1491.88, $p < .001$, η^2_p

= .93 (see Table 2). Although prosecutors' questions were less suggestive than defence attorneys', a majority of the prosecutors' questions were nevertheless option-posing, and only 3% of their questions were invitations.

Children's Responsiveness

A one-way RM-ANOVA was conducted to assess the difference between children's responsiveness (proportion of answers that were unresponsive) to attorneys' (repeated-measures; prosecution and defence) questions, and whether this effect differed depending on the age of the children (between-subjects; 6- to 9- and 10- to 12-year-olds). The results revealed a significant main effect for children's responsiveness, F (1, 118) = 5.23, p = .02, η^2_p = .04, but no significant interactions involving age. Bonferroni post-hoc comparisons (adjusted alpha level = .025) indicated that children were significantly more likely to be unresponsive to defence attorneys (M = .02, SD = .03) than to prosecutors (M = .01, SD = .02).

Two separate RM-ANOVAs were conducted for prosecutors and defence attorneys to assess whether any types of questions were associated with greater responsiveness. Importantly, both tests revealed no significant differences.

Self-contradictions

In total, 2093 self-contradictions were identified, with children contradicting themselves in 114 (95%) of the cases. Self-contradictions were identified in 103 (85.83%) of the examinations by prosecutors and 109 (90.83%) of the examinations by defence attorneys. In response to prosecutors, 664 (M = 5.53, SD = 6.16, range 0 – 40) self-contradictions occurred, while 1429 (M = 11.91, SD = 12.91, range 0 – 71) self-contradictions occurred in response to defence attorneys' questions. A paired samples t-test showed that the defence attorneys elicited significantly more self-

contradictions (M = .06, SD = .04), than prosecutors (M = .02, SD = .02), t (119) = 9.67, p < .001, r = .66, 95% CI [.03, .04].

Table 3 presents descriptive statistics for proportions of question types that elicited self-contradictions. All substantive questions were included in the analyses. A two-way RM-ANOVA was conducted to assess whether any type of question (repeated-measures; invitations, directives, option-posing and suggestive prompts) was disproportionately likely to elicit self-contradictions, and whether this effect differed depending on the age of the children (between-subjects; 6- to 9- and 10- to 12-year-olds). Attorney role was not included in the analysis to maximise statistical power. The analyses revealed a significant main effect for the proportions of self-contradictions associated with the different question types, F (1.8, 194.78) = 39.09, p < .001, η^2_p = .27. There were no significant interactions involving age.

Bonferroni post-hoc comparisons (adjusted alpha level = .0125) indicated that there were no significant differences between the proportion of invitations and directive prompts and the proportion of invitations and option-posing prompts that resulted in self-contradictions. On the other hand, option-posing prompts were significantly more likely to elicit self-contradictions than directive prompts. Suggestive prompts were significantly more likely to elicit self-contradictions than invitations, directive, and option-posing prompts (see Table 3).

Discussion

Because children and adults have different developmental capacities and limitations (Lamb et al., in press), and because judges and jurors often place a strong emphasis on consistency when assessing the veracity of oral testimony (e.g., Bruer & Pozzulo, in press; Home Office, 2011; Semmler & Brewer, 2002**),** it is vital to understand what questions can safely be posed to children by both the prosecution and

the defence without obstructing the course of justice. This study systematically examined, in 120 court cases, the types of questions child witnesses were asked in court, how their responsiveness and consistency were affected by the types of questions asked, and whether this differed depending on their ages and the identity of the attorney (prosecutor or defence). The sample was sample several times larger than previous research, and was the first to examine children's self-contradictions in American courtroom testimony.

Key Findings

Prosecutors were significantly more likely than defence attorneys to use invitations, directives and option-posing prompts, whereas defence attorneys were significantly more likely than prosecutors to use suggestive prompts. These results are consistent with previous reports that prosecutors are significantly more likely to use open-ended prompts than defence attorneys and that defence attorneys are significantly more likely to use suggestive prompts than prosecutors.

However, the results highlight the fact that the problems children face in court are not merely attributable to cross-examination by defence attorneys. Prosecutors used more closed-ended than open-ended prompts, were most likely to use option-posing prompts, and virtually never used invitations. These results are consistent with research examining smaller samples of U.S. court transcripts (Klemfuss et al., in press; Stolzenberg & Lyon, 2014). They appear inconsistent with research (in a New Zealand sample) that found that prosecutors' questions are predominantly open-ended (Zajac et al., 2003), but consistent with subsequent research in New Zealand finding that prosecutors used predominantly closed-ended questions (Hanna et al., 2012; Zajac & Cannan, 2009). Moreover, they highlight the value of distinguishing between invitations, which have been found to be highly productive in eliciting details

from children, and directives, which are less productive (Lamb et al., 2008). When invitations are separately analysed in the court transcripts, they are virtually non-existent.

Both prosecutors and defence attorneys elicited a substantial number of inconsistencies. Although self-contradictions were quite rare as a percentage of questions asked, all but six of the children contradicted themselves at least once, 85% in response to prosecutors' questions and 90% in response to defence attorneys. There were an average of 5.53 (range 0-40) and 11.91 (range 0-71) self-contradictions in the direct- and cross-examinations, respectively. Previous studies have similarly shown that most children provide some inconsistent responses when questioned in court and that more inconsistencies occur in response to defence attorneys than prosecutors (Zajac & Cannan, 2009; Zajac et al., 2003), but self-contradictions in response to prosecutors' questions were much more common in this study. Zajac et al. (2003) reported no self-contradictions in response to prosecutors and a range of 1-16 self-contradictions ($M = 3.56$) in response to defence attorneys. Zajac and Cannan (2009) reported an average of 1.03 and 5.03 self-contradictions in the direct- and cross-examinations, respectively, with an absolute range of 0-20. They noted that defence attorneys elicited self-contradictions in 93% of the cases, but did not report the percentage of cases in which prosecutors did so.

These discrepancies are perhaps explained by differences in the length of the transcripts examined. Both direct- and cross-examinations in the present study were much longer on average than those analysed by Zajac and Cannan (2009) and Zajac et al (2003). Direct-examinations in particular were longer, probably because New Zealand prosecutors rely to a large extent on children's videotaped statements. Since

the authors did not have access to those videotapes, they could not determine the extent that children's in-court testimony contradicted their videotaped testimony.

Suggestive questioning places pressure on children to reconsider and change their previous responses. As in this study, research in experimental (e.g., Jack & Zajac, in press; Fogliati & Bussey, in press; Zajac & Hayne, 2003) and forensic settings (Zajac et al., 2003) shows that children are most likely to change their answers when questioned using closed-ended suggestive prompts. Indeed, in the present study, closed-ended suggestive questions were more likely to elicit self-contradictions than closed-ended option-posing prompts, open-ended directives and invitations, while option-posing questions were more likely to elicit self-contradictions than directive questions.

The larger sample in this study enabled us to sensitively assess age differences. Nevertheless, attorneys did not appear to adjust their questioning to accommodate younger children, as neither question type nor length of examination varied by age. Surprisingly, children's performance did not appear to vary by age. There were no age differences in children's responsiveness, nor in the proportion of self-contradictions elicited regardless of the types of questions asked.

Limitations

Several limitations should be noted. First, we were unable to determine the veracity of the allegations or of children's specific responses. However, self-contradictions of necessity constitute false responding, since the contradictory answers cannot both be correct, and our finding that suggestive questions were most likely to elicit self-contradictions is consistent with laboratory research demonstrating that suggestive questions are most likely to elicit errors.

Second, all of the cases were tried in a single county 12-17 years ago. Attorneys

questioning techniques may vary by jurisdiction and change over time. However, Los Angeles County is the most populous county in the United States, as well as highly diverse, socioeconomically and ethnically. Because the McMartin daycare case was tried in Los Angeles, attorneys would certainly have been well aware of current concerns regarding the suggestibility of children. Furthermore, there is little evidence that attorneys' questions have improved over time. Hanna et al. (2012), who found that both prosecutors and defense attorneys in New Zealand asked predominantly closed-ended questions, noted that their results, utilizing transcripts from 2008, were similar to Davies & Seymour (1998), who examined transcripts from cases tried in 1994.

Third, we did not measure the complexity of the questions, an issue that has been emphasized in prior research examining children's difficulties with cross-examination (Hanna et al., 2012; Zajac et al., 2009; Zajac & Hayne, 2003). Complexity may interact with age, attorney, and question-type in affecting responsiveness and self-contradiction. However, Evans et al. (2009), examining 46 4- to 15-year-olds' testimony in Los Angeles cases, did not find any age or attorney differences in either wordiness or the syntactic complexity of the questions. Similarly, although Zajac et al. (2009) found that adults were asked more complex questions than children, Zajac and Hayne (2003) found no relation between age and complexity among 5- to 13-year-olds. And although Zajac et al. (2009) found that defense attorneys asked more of one type of complex questions than prosecutors, the differences with respect to child witnesses were quite small; 31% of defense attorneys' questions were complex, but so were 25% of prosecutors. Similarly, Hanna et al. (2012) found that prosecutors and defense attorneys significantly differed in complexity in only one of five types examined. Hence, we think it unlikely that the

results are confounded by complexity.

Nevertheless, the point that researchers should consider more than question-type is well-taken. For example, peripheral details relating to the alleged victim's thoughts and feelings may be more emotionally salient and susceptible to suggestion than central details relating to the sexually abusive actions. Furthermore, when interpreting self-contradictions, acquiescence to suggestion may be driven as much by the content of the question as by the type of question. For example, the first example of a self-contradiction provided in Table 1 is a question about numerosity, which is inherently difficult for children (Wandrey, Quas, & Lyon, 2012), and the child may be confusing within-event numerosity (e.g., the alleged abuse occurred once on that particular occasion) with between-event numerosity (e.g., the alleged abuse occurred on 5 separate occasions). It is also impossible, when focusing on self-contradictions to know which question was problematic and which answer (if any) was accurate. In Table 1, for example, the first question in the first example of a self-contradiction is suggestive and the second question is directive. Perhaps the initial question was problematic while the contradiction-eliciting question elicited an answer that was closer to the truth. Indeed, contradiction-eliciting questions during cross-examination may increase testimonial accuracy if the child's initial report was untrue. Future work in the field should examine specific problems with question content, and link those findings to laboratory work on question content and children's accuracy.

Implications

In the United States, as in most other western jurisdictions, defendants have the right to challenge the evidence against them. It is well established that the use of closed-ended questions, and in particular suggestive utterances, increase the risk of eliciting erroneous information (e.g., APSAC, 2012; Home Office, 2011, section 3.44;

Lamb et al., in press). However, there is a fundamental conflict between best-practice guidelines and the aims of cross-examination questioning techniques that are concerned not with eliciting evidence but with testing it (Zajac, O'Neill, & Hayne, 2012).

There are currently very limited guidelines about how attorneys should question children in court. The guidance that does exist is neither well embraced nor well informed (Spencer & Lamb, 2012). Attorneys should be given more detailed advice concerning the most appropriate ways of questioning children in courtroom settings. Specifically, attorneys should abide by best-practice guidelines that are sensitive to children's limitations and competencies and strongly discourage the use of suggestive questions.

Recently, evidence-based "Toolkits" (see Advocacy Training Council (ATC), 2011) have been introduced to provide continuing education and thus improve practice in England and Wales. Launched in 2013 on The Advocate's Gateway, Toolkits are now a core element of training and were endorsed in the Lord Chief Justice's Criminal Practice Directions (2013). It is essential that the training is systematically assessed to ensure that practice is indeed improved.

A continuing challenge is how to protect children from distress and developmentally inappropriate, misleading and confusing questions, whilst also protecting the defendants' rights to challenge their accusers. Best-practice guidelines for the questioning of child witnesses in court must allow the veracity of children's testimony to be evaluated without exploiting their developmental capacities. Future research should focus on the development of new interventions (e.g., O'Neill & Zajac, 2013; Righarts et al., 2013; see also Zajac et al., 2012) that are sensitive to children's developmental limitations and competencies but also protect the

defendants' right to fair trials.

Conclusion

The present study supports findings from previous research that suggestive questions adversely affect the consistency of children's responses and that these problems are more serious when defence attorneys question children. However, both prosecutors and defence attorneys asked predominantly closed-ended questions, prosecutors elicited a substantial number of self-contradictions, and neither prosecutors nor defence attorneys were sensitive to children's developmental differences.

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Table 1
Question Types and Responses

Code	Examples
Invitation	"Tell us what happened." "Earlier you mentioned (person/object/action). Tell me more about that." "Then what happened?" "Tell me everything that happened after you got on the bed." (when "I got on the bed" was previously mentioned by the child)
Directive	"How did he touch you?" (when "he touched me" was previously mentioned by the child) "What type of top were you wearing?" (when "wearing a top" was previously mentioned by the child) "Where were you when that happened?" "What colour was the inside of the car?"
Option-posing	"Did he make you swallow anything?" "When he touched you on your penis, did he do that one time or more than one time?" (when "touched my penis" was previously mentioned by the child) "Did he touch your arm or did he touch you somewhere else?" (when "he touched me" was previously mentioned by the child)
Suggestive	"Now, that's not what you told the police, of course, is it? You told the police something a lot different, didn't you?" "Did you tell a lie when you answered, no, he didn't put his finger in your butt?" "Are you sure about that?" "After he took your pants and panties off, what happened?" (when the child had previously said "I took my pants and panties off")
Responsive	Attorney: "Do you remember what room of the house you were in when it happened?" Child: "The living room." Attorney: "Can you stand up and point?" Child: (indicating). Attorney: "When you turned around the man was running away?" Child: "Yes."
Unresponsive	Attorney: "What did he say?" Child: "I was – I said "STOP" and I tried to push him away from me, but he kept holding on to my waist." Attorney: "Well that can't be right, can it? Try again. Was he standing or sitting?" Child: "He licked my private, too".
Self-contradiction	Attorney: "He licked you one time?" Child: "Yes." (later in the proceedings) Attorney: "How many times did he lick you?" Child: "I don't know - like 5 times". Attorney: "Did he touch your privates when you were in the car?"

Child: “No.” Attorney: “But I thought he did touch you in the car. Did he touch your privates in the car?” Child: “No. I never - in the car he touched my privates.”

Table 2
Proportions of Question Types

	Prosecution		Defence	
Question type	*M*	*SD*	*M*	*SD*
Invitation	.03	.03	.00	.01
Directive	.29	.08	.13	.06
Option-posing	.52	.08	.46	.12
Suggestive	.16	.06	.42	.14

Table 3
Proportions of Question Types that Elicited Self-contradictions

	Self-contradictions	
Question type	*M*	*SD*
Invitation	.02	.09
Directive	.02	.02
Option-posing	.03	.02
Suggestive	.08	.06