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Children's Requests for Clarification in Investigative Interviews About Suspected Sexual Abuse

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Summary: In investigative interviews, it is vital that children request clarification when necessary so that crucial legal decisions can take into account the most accurate and detailed information. In the present study, 91 investigative interview transcripts about suspected child sexual abuse were coded to answer these research questions: (i) How often and how do children request clarification in investigative interviews? (ii) What factors (age, alleged abuse frequency, interviewer prompt type) are associated with children's requests? and (iii) How do interviewers respond to clarification requests, and are these interventions associated with relevant responses from children? Children rarely requested clarification, although, as expected, older children made more requests. Most requests were explicit (e.g., What do you mean?) and in response to invitation prompts. Question 'rephrasing' was the most common interviewer intervention regardless of child age. Results have implications for interviewing children in various contexts and for advancing our understanding of children's cognitive and communicative development. Copyright © 2015 John Wiley & Sons, Ltd.

For various reasons, children are routinely questioned about their prior experiences. Most of the events that children are asked about are relatively mundane, and the contexts in which they are questioned are informal. For example, they may be asked everyday questions by teachers or parents (e.g., Who started the argument? What happened at school today? Where are you going with your friends?). At times, however, youth need to be questioned in more formal contexts about personally significant, negative, or even traumatic events such as child maltreatment or domestic violence. In these types of situations, legal and social service professionals may make crucial decisions on the basis of children's statements (e.g., whether to arrest a suspect or remove a child from home), which can affect the lives of children and families dramatically. Although many contexts in which children are interviewed require accuracy (e.g., clinical and medical), it is particularly important that children interviewed in the legal context indicate when they do not understand or require clarification so that critical decisions can take account of the most accurate and detailed information available. The purpose of the present study was to examine children's requests for clarification during investigative (sometimes called 'forensic') interviews about suspected child sexual abuse.

THE INVESTIGATIVE INTERVIEW CONTEXT

There are several reasons for focusing on children's requests for clarification specifically in the context of investigative interviews about child abuse. First, youth are increasingly likely to have contact with the legal, social service, and child welfare systems around the world, often as a result of suspected child maltreatment (Bruck, Ceci, & Principe, 2006; Lamb, Malloy, Hershkowitz, & La Rooy, in press). In the United States, approximately 3 million investigations of suspected child maltreatment are conducted annually (Gelles & Brigham, 2011). When abuse is suspected, children are typically interviewed about their experiences, and these interviews represent a critical piece of evidence in the investigation and potential prosecution of associated crimes. Often, children's statements represent the *only* piece of evidence because external evidence (e.g., medical evidence or eyewitness testimony) is seldom available (Malloy, Lamb, & Katz, 2010). Accuracy and completeness are critical because there are serious consequences for both the alleged victim and the accused. Thus, there are potentially important and relatively unique risks associated with children's failure to clarify miscomprehension when answering questions posed by investigative interviewers.

Second, investigative interviews represent an unfamiliar and potentially stressful context for children, and there are many opportunities for misunderstandings. Children may be confronted with complex questions and unfamiliar legal terminology (Evans, Lee & Lyon, 2009; Katz & Hershkowitz, 2012; Saywitz, Jaenicke, & Camparo, 1990; Saywitz & Snyder, 1993). They may have limited vocabulary to describe the specific events that occurred, their timing, and the emotions that accompanied their experiences (Ahern & Lyon, 2013; Walker, 1999; Wandrey, Lyon, Quas, & Friedman, 2012). Especially in child sexual abuse cases, children may be required to discuss embarrassing topics in great detail, perhaps accusing trusted and familiar individuals, and this may be emotionally distressing. Although they are likely experiencing stress, children must conduct challenging memory searches and narrate in detail about past events.

Third, children, particularly young children, are not used to being in the role of the 'expert', especially when questioned by adults (Hershkowitz, Lamb, Orbach, Katz, & Horowitz, 2012). However, in investigative interviews, they are supposed to act as experts about the events in question and to do most of the talking in response to open-ended questions. Furthermore, they are expected to indicate when adult interviewers have been unclear or when miscommunication has occurred. Children tend to be deferent to adult

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authority (Laupa, 1994) and may not feel comfortable violating the demand characteristics of the interview (i.e., the adult interviewer requests information from me, and I provide it) by questioning or correcting adults or by failing to provide answers (Carter, Bottoms, & Levine, 1996; Imhoff & Baker-Ward, 1999; Perry et al., 2001). Even 3-year-olds understand the reciprocal nature of conversations and that adults who pose questions expect responses (e.g., Owens, 1988).

In sum, investigative interviews may be challenging for children (and adults) for several reasons, and the opportunities for misunderstandings are not only ample but also potentially harmful to children's accuracy and credibility in critical legal contexts. Next, we review research relevant to children's requests for clarification and the skills related to such requests.

CHILDREN'S REQUESTS FOR CLARIFICATION IN LABORATORY SETTINGS

Most research relevant to the present study was conducted in laboratory settings rather than in field contexts using naturalistic interview data. The laboratory analogue research has been informative in demonstrating, for example, that children provide answers to bizarre or nonsensical, unanswerable, and difficult-to-comprehend questions, rarely requesting clarification in such instances (e.g., Hughes & Grieve, 1980; Pratt, 1990; Saywitz, Snyder, & Nathanson, 1999). For example, Carter and colleagues (1996) questioned half of 5- to 7-year-olds about a standardized play event with linguistically simple questions (e.g., 'Didn't you play video games in the room with the pirate?') and half with linguistically complex questions (e.g., 'Wouldn't it be accurate to suggest that you played video games in the room with the pirate?'). In the complex condition, children requested clarification of fewer than 1% of the 900 questions asked, and there were no clarification requests in the simple condition. Regardless of condition, children claimed to have understood the questions very well, but their accuracy, especially in the complex condition, demonstrated a lack of comprehension.

In a series of studies, Waterman, Blades, and Spencer (2000, 2001, 2004) established children's propensity to answer questions that were nonsensical (e.g., 'What do bricks eat?'; 'Is a box louder than a knee?') and those that were unanswerable on the basis of the information provided to children in the story or staged event. In these studies, rather than focusing on children's requests for clarification, of interest was whether children would provide an appropriate 'don't know' response or attempt to answer the questions instead. Children under the age of 7 years were less likely than older children to say 'don't know' in response to unanswerable questions. Also, children tended to provide significantly more (as much as three times more; Waterman et al., 2001) 'don't know' responses to relatively open-ended questions (WH-questions such as, 'What flavour ice cream did Mary have?') than closed-ended yes/no (e.g., 'Did they have lemonade with their lunch?'). The authors reasoned that WH-questions involve the more cognitively demanding task of *generating* a suitable response, which may force them to focus more on comprehension, whereas yes/no (also known as 'option posing' or 'forced choice') questions merely require that children respond with straightforward and easily accessed responses ('yes' or 'no'). These findings underscore the importance of examining the types of questions that trigger children's clarification requests.

Another subset of the laboratory work on this topic has focused on testing techniques designed to encourage children's 'don't know' responding when appropriate. Some of these strategies (e.g., incentives to increase accuracy motivation; Roebers & Fernandez, 2002; pre-interview instructions and pre-interview practice providing free-recall narratives; Waterman & Blades, 2011) have shown promise in improving children's 'don't know' responses to unanswerable questions. Devising empirically based interventions to increase children's appropriate use of 'don't know' is a worthwhile pursuit. However, 'don't know' responses can have various meanings. For instance, they may be an indirect way for children to indicate that they have failed to comprehend the question and are in need of clarification. Or, children may use 'don't know' to indicate that the question was unanswerable because they never learned the requisite information or no longer remember it. Children may, at times, say 'I don't know' when they are resistant or reluctant to answer the questions posed (Hershkowitz, Orbach, Lamb, Sternberg, & Horowitz, 2006). Furthermore, in 'real world' settings such as investigative interviews, interviewers are typically unaware that they are asking unanswerable questions. Thus, encouraging 'don't know' responses may not be the best way for children to inform interviewers that their questions are problematic rather than children's knowledge or memory for the requested information.

Rather than attempting to increase 'don't know' responding, Saywitz et al. (1999) tested the effectiveness of training 6- and 8-year-olds to verbalize when they did not understand a question and then examined their memories for a staged event. Children in the control condition attempted to answer difficult-to-comprehend questions, whereas children in the training conditions were more likely to indicate when they did not understand the questions. Thus, experimental research has demonstrated that young children (i.e., elementary school age) can be trained to respond with 'don't know' and to request clarification of misunderstandings. Although the questioning style in some prior studies was intended to simulate what children may experience in legal contexts (e.g., Carter et al., 1996; Saywitz et al., 1999), children were questioned about pleasant events (e.g., play events and stories). Furthermore, the interventions were tested despite the absence of research concerning how children typically request clarification in actual investigative interviews, which was the focus of the present study.

WHY CHILDREN MAY FAIL TO REQUEST CLARIFICATION IN INTERVIEW SETTINGS

There are two primary reasons that children may fail to request clarification from interviewers: (i) They may not realize that they need it (i.e., failure to monitor comprehension accurately), and (ii) they may not feel comfortable asking for it (i.e., failure to overcome the demand characteristics of the interview). Both cognitive and social explanations have

merit and suggest that children's requests for clarification in investigative interviews will increase with age.

Comprehension monitoring

Over time, children's comprehension monitoring skills improve as do their metacognitive abilities (e.g., Flavell, 1979; Lyons & Ghetti, 2010; Roebers, 2006). In other words, young children are less likely to recognize when they have failed to comprehend questions. Perry et al. (1995) found that, although adults sometimes failed to notice their miscomprehension of complex questions posed in 'lawyerese', kindergarteners had substantial difficulty doing so, even compared with fourth graders. Several studies suggest key developments in comprehension and uncertainty monitoring during the early elementary school years (e.g., Roderer & Roebers, 2010). For example, Markman (1977) found that first graders were unlikely to notice that 'how to' instructions for a magic trick/game left out crucial pieces of information, whereas third graders noticed with minimal probing. Markman (1979) revealed significant improvements from grades 3 to 6 in children's ability to monitor their comprehension of an essay containing explicit contradictions; however, some sixth graders failed at the task despite the favorable conditions for doing so (e.g., hearing the material twice).

Although preschoolers can monitor their comprehension in some familiar situations (Revelle, Wellman, & Karabenick, 1985), young children's deficiencies in comprehension monitoring may be exacerbated by the situational stresses, complexity, and unfamiliarity of investigative interview settings leading them to overestimate how well they understand the questions (e.g., Carter et al., 1996). Furthermore, children often need to be interviewed about repeated abuse experiences and are asked to 'particularize' occurrences by describing several individual episodes (Brubacher, Powell, & Roberts, 2014; Connolly & Read, 2006). In interviews about multiple incidents, the cognitive demands may be particularly high as children monitor their question comprehension while tracking the shifts in discussion across various incidents. That is, children often must label specific incidents themselves (e.g., the time in the bathroom), follow interviewers' labels which sometimes contradict their own, and discuss each incident in a detailed manner (Brubacher, Malloy, Lamb, & Roberts, 2013). Finally, long delays between the target event and interview, which is the norm in investigative contexts, may also make it more difficult for children to recognize comprehension failure (Waterman & Blades, 2013).

Demand characteristics

Not only do children have to recognize their comprehension failures, but they must be willing and able to communicate their miscomprehension. Children's strategies for coping with misunderstandings develop gradually (Saywitz et al., 1999), and they often feel pressured to respond when adults ask them questions (e.g., Bjorklund et al., 2000).

As evidenced by laboratory studies examining children's 'don't know' responding, demand characteristics may play a role in children's willingness to request clarification in investigative interviews. For example, Waterman et al. (2000) found that 6-year-olds could correctly distinguish between sensible and nonsensical questions (e.g., 89% accuracy on detecting yes/no nonsense questions); yet, they still tried to answer approximately 80% of these nonsensical questions. In another study, children who were aware that interviewers lacked knowledge about the target event were more likely to respond with 'don't know' to unanswerable questions than children who were interviewed by knowledgeable interviewers (Waterman et al., 2004). When interviewers attended the event, children may have assumed that the interview was more of a 'test' situation than an information-gathering effort, which may have increased the pressure on children to provide substantive answers. As Carter et al. (1996) pointed out, children may be afraid to appear 'dumb' by admitting a need for clarification. In fact, self-confidence has been linked to children's willingness to say 'don't know' (Waterman & Blades, 2013).

It is likely that both cognitive and social factors play a role in children's requests for clarification (Waterman & Blades, 2011). Although the present field study cannot tease these explanations apart, it represents the first in-depth investigation of children's requests for clarification in investigative interviews and examines the factors associated with such requests (i.e., age, alleged abuse frequency, and interviewer prompt type).

THE PRESENT STUDY

The purpose of the present study was to conduct a descriptive analysis of children's requests for clarification in actual investigative interviews about suspected sexual abuse. Specifically, regarding children's requests for clarification, we asked the following three questions: (i) How often do children request clarification in investigative interviews? (ii) How do children request clarification? and (iii) What factors are associated with children's requests for clarification? We also examined how interviewers responded to children's clarification requests and whether these interventions were associated with subsequent relevant responses from children.

We hypothesized that, with age, children would make more requests for clarification and would tend to do so by making inferences about the interviewer's meaning owing to their developing metacognitive and comprehension monitoring skills. Also, we expected that children who alleged multiple incidents of abuse would make more clarification requests due to the greater complexity of these interviews. Furthermore, we hypothesized that invitation prompts (i.e., open-ended questions) would trigger more requests for clarification than closed-ended prompts because it is particularly difficult for children to narrate in response to open-ended prompts when they do not have a clear understanding of what is being asked (e.g., Waterman et al., 2001, 2004). Regarding interviewer responses to children's clarification requests, we made no predictions owing to the paucity of research in this area. To test these hypotheses, we coded a sample of investigative interviews about alleged child sexual abuse.

METHOD

Sample characteristics

The sample consisted of 91 forensic interviews of primarily female (80%, $n = 73$) 4- to 13-year-old alleged victims of child sexual abuse (M age = 8.98, $SD = 2.53$). The sample was equally distributed across three age groups (34% 4- to 7-year-olds, 34% 8- to 10-year-olds, and 32% 11- to 13-year-olds). There were more boys in the youngest age group (4- to 7-year-olds: 35% male; 8- to 10-year-olds: 7% male; 11- to 13-year-olds: 17% male), $\chi^2(2) = 8.41$, $p = .015$. The most common alleged perpetrator (44%) was someone familiar to the child but not a family member (e.g., babysitter and neighbor). Family members were relatively common with 28% of the alleged perpetrators immediate family members (i.e., those living in the home and/or involved in the child's care) and 24% extended family members (e.g., grandparent and uncle). Strangers made up a small percentage of the alleged perpetrators (3%). Most children (62%) alleged more than one incident of abuse with 44% claiming penetration, 36% touch under the clothes, and 20% touch over the clothes as the most severe type of abuse.

Procedure

The interviews were conducted between July 1999 and October 2001 by UK police officers in one police constabulary who had been trained to use the National Institute of Child Health and Human Development (NICHD) Investigative Interview Protocol (see Lamb, Hershkowitz, Orbach, & Esplin, 2008, for a detailed review). The interviews were included in the present study archive if the child was under 13 years of age, the child made an allegation of sexual abuse, it was the first recorded forensic interview with the child, the allegation seemed credible, the transcript was complete, and the NICHD Protocol was followed.

In brief, the NICHD Protocol is a best-practice structured interview protocol that is based on empirical research. It is used routinely in multiple countries to conduct interviews with children and was designed to promote and guide interviewers' use of prompts (i.e., requests for information) and techniques that maximize the amount of information elicited from free-recall memory. The protocol is a funnel approach that emphasizes the use of open-ended invitation prompts (i.e., 'Tell me everything that happened') and moves from these very broad prompts to more narrow prompts if necessary (see the Coding and data reduction section).

The NICHD Protocol includes a pre-substantive phase and a substantive phase. During the pre-substantive phase, interviewers engage in several tasks including building rapport and conducting episodic narrative practice by asking children to describe neutral events (e.g., recent holiday and birthday) in detail. Before these tasks, interviewers convey important instructions to children and set the expectations of the interview (e.g., that they should describe events in as much detail as possible and tell the truth). These instructions, which are called for in the Memorandum of Good Practice and Achieving Best Evidence guidelines (Home Office, 1992, 2011), explicitly encourage children to request clarification as appropriate: Children are told that it is okay to say that they do not understand or to correct the interviewer if he or she makes a mistake. In the present study, coders verified that all children were indeed instructed to request clarification when necessary. In the substantive phase, interviewers gather information about the alleged incident(s) under investigation.

All interviews were audio-recorded and transcribed verbatim by professional transcribers so that they could be coded in detail. Identifying information (e.g., names of people and places) was removed from the transcripts prior to coding. The first and last authors randomly selected a subset of the transcripts (30%, $n = 28$) to assess inter-coder reliability with the stipulation that the full range of children's ages was included in the sub-sample. Kappas were sufficient (all ≥ 0.82) for all coding categories, and discrepancies were resolved by discussion.

Coding and data reduction

Coders, who were blind to the study hypotheses, identified every request for clarification made by children in both the pre-substantive and substantive phases of the interview. Clarification requests were defined as all statements or questions uttered by children to indicate that they did not understand or needed clarification regarding a particular interview prompt. See Figure 1 for a flow chart depicting the coding sequence and categories.

Clarification request types

First, children's requests for clarification were coded into one of three mutually exclusive categories. *Explicit* requests involved the child indicating plainly that he or she did not understand the question (e.g., 'I don't understand'; 'I don't know what you mean'). Explicit requests could also be phrased as questions (e.g., 'What do you mean?'). *Repeats* requests involved the child simply repeating the interviewer's question (in part or in full) in a verbatim or almost verbatim manner (e.g., Interviewer: 'Tell me everything about the first time something happened?' Child: 'The first time?'). Finally, *inference* requests involved the child inferring the interviewer's meaning or purpose of the question and requesting that the interviewer confirm this inference (e.g., Interviewer: 'So tell me about D (male's name)' Child: 'What—tell you what he looked like?'; Interviewer: 'I want you to tell me everything that's happened to you from the beginning right to the end.' Child: 'With daddy?'). Key dependent measures were children's total clarification requests as well as the total explicit, repeats, and inference requests.

Clarification request triggers

We coded the interviewer prompts that preceded or 'triggered' the children's request for clarification into one of five mutually exclusive categories established by the NICHD codebook and used in numerous studies (see Lamb et al., 1996, 2008, for more details). The clarification trigger prompts were coded as follows: (i) *invitations*, or open-ended prompts requesting that children narrate about their experiences (e.g., 'Tell me everything about that', 'You said (X). Tell me more about that'); (ii) *directives*, or focused recall questions that request information within specific categories such as 'who' or 'when' by asking for additional

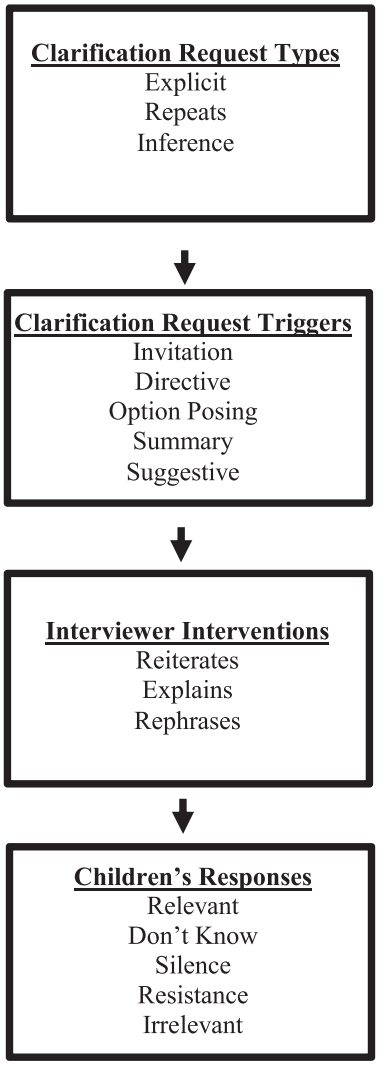

Figure 1. Flow chart depicting coding sequence and categories

information about details that children have mentioned already (e.g., 'You said that he touched you. Where were you when he touched you?'); (iii) *option posing questions*, which are mostly yes/no or forced-choice questions referencing new issues that the child failed to address previously (e.g., 'Were you at his house or your house?'); (iv) *summaries*, which are prompts in which the interviewer summarizes content that was previously mentioned by the child without formulating an additional question (e.g., 'You told me that it happened in your room, on your bed'); or (v) *suggestive prompts*, which are prompts that communicate to the child what response is expected or introduce new information not yet mentioned by the child (e.g., 'You were at home when that happened, right?' when the child had not previously mentioned this information).

Interviewer interventions

We coded all interviewer interventions, or the ways in which interviewers responded to children's requests for clarification, into one of three mutually exclusive categories. *Reiterates* interventions did not add any new information to the interviewer prompt; interviewers simply reiterated the prompt that had triggered the child's clarification request. Essentially, these interventions repeated the prompt or confirmed the child's request for clarification (e.g., Interviewer: 'Where did he touch you?' Child: 'I don't know what you mean.' Interviewer: 'Where?'). For *explains* interventions, interviewers provided an explanation for the prompt (e.g., Interviewer: 'Tell me about his touch' Child: 'What do you mean?' Interviewer: 'You mentioned earlier that he touched you and that it was weird for you; tell me more about his touch'). The *rephrase* interventions code was used when the interviewer posed the question in a different way (e.g., Interviewer: 'When did these things happen?' Child: 'What time?' Interviewer: 'Was it a long time ago or a short time ago?').

Interviewer interventions were organized in a hierarchy whereby the code that represented the most substantial alteration from the initial trigger prompt was used. The *reiterates* code was considered the most basic intervention because such interventions exhibited the least amount of change from the initial trigger prompt, whereas *rephrase* interventions represented the most substantial alteration of the initial prompt. For example, when the interviewer explained the question and then reiterated it to the child (e.g., Interviewer: 'So has that happened one time, H (interviewee's name), or more than one time?' Child: 'About what?' Interviewer: 'About your uncle putting his hand down your pants; has that happened one time or more than one time?'), the interviewer intervention was coded as *explains*. When the interviewer explained the question and then rephrased it (e.g. Interviewer: 'Tell me about the time he hurt you.' Child: 'The time at school?' Interviewer: 'No, the time at the house. I want to know everything that happened—where you were, who was there'), the interviewer intervention was coded as *rephrases* even though the interviewer explained as well.

Key dependent measures include the total number of *reiterates*, *explains*, and *repeats* interviewer interventions as well as the total number of the various interviewer interventions in response to the different types of clarification requests (i.e., explicit, repeats, and inference).

Child responses

Children's responses to interviewer interventions were coded into one of six mutually exclusive categories. Although the nature of this field work precluded judgments about accuracy, *relevant* responses were those that appeared to answer the interviewers' questions in a sensible way (e.g., Interviewer: 'So you're sat at the computer. When L (male's name) first touched your private, where was L (male's name)?' Child: 'Erm—you mean where as in—in whereabouts in the room?' Interviewer: 'Yeah. Where was he?' Child: 'He was behind me'). Other responses included *don't know* (i.e., the child indicated not knowing or remembering the answer), *silence* (i.e., no response provided), *resistance* (i.e., the child indicated that he or she did not want to continue with the interview or answer the question; e.g., 'I have nothing else to say'), *irrelevant* (i.e., the child provided a response that did not appear to make sense; e.g., Interviewer: 'Erm—tell me erm everything you can about when it was?' Child: 'Erm—the marriage?' Interviewer: 'No, sorry about erm when the first time you mentioned about the touching?' Child: 'Oh erm—well we were both erm—because we've

got a kitchen and then we've got like a room with a table in it, and then we've got like an open door in to the room where the television is'), and *further clarification* (i.e., the child asked for additional clarification). Responses that did not fit into the relevant category were summed to reflect *uninformative* responses.

Key dependent measures were the number and proportion of children's relevant responses to interviewer interventions, including separate scores calculated for their relevant responses to the reiterates, explains, and rephrases interventions.

Child utterances

Child utterances, a control variable in the present study, were defined as the number of statements (substantive or non-substantive) made by children in the pre-substantive and substantive phase. Utterances were operationally defined as turns in the exchange, with each statement between successive prompts or statements by the interviewers counting as a single utterance, regardless of its length or complexity. The number of child utterances was thus very similar to the number of interviewer utterances.

RESULTS

Preliminary analyses and analysis plan

t-Tests and univariate analyses of variance (ANOVAs) revealed no significant differences in relation to child gender, abuse type, or alleged perpetrator identity in whether children ever requested clarification or in the total number of clarification requests they made. Furthermore, there were no significant associations between children's clarification requests (i.e., whether they ever made clarification requests or the total number of clarification requests) and children's total pre-substantive utterances ($M = 50.49$, $SD = 22.22$), total substantive utterances ($M = 219.7$, $SD = 104.9$), or total interview utterances overall ($M = 270.19$, $SD = 111.82$).

The main analyses consisted of repeated-measures ANOVAs and regressions examining the number of clarification requests made by children. Violations of sphericity are reported as relevant, and for all violations, the degrees of freedom were corrected using the Huynh–Feldt estimates of sphericity. As appropriate, we analyzed whether age and abuse frequency were related to variables of interest. In all analyses examining the effects of child age, we controlled for the total number of child utterances.

How often do children request clarification in investigative interviews?

In 68% of the interviews ($n = 62$), children made at least one request for clarification. Among children who requested clarification, they did so, on average, 4.63 times ($SD = 4.24$, range = 1 to 17). Most of the clarification requests (77%) occurred during the substantive ($M = 2.43$, $SD = 3.22$) rather than pre-substantive phase (23%, $M = 0.73$, $SD = 1.41$) of the interview with 39% of children requesting clarification at least once in the pre-substantive phase and 62% doing so at least once in the substantive phase.

How and when did children request clarification in investigative interviews? Clarification types and triggers

Approximately half of the total clarification requests were explicit in type (49%) followed by inference (36%) and repeats (15%) requests. A 3 (clarification type: explicit vs. repeats vs. inference) repeated-measures ANOVA was conducted. Mauchly's test indicated that the sphericity assumption was violated, $\chi^2(2) = 6.67$, $p = .036$. A significant effect of clarification type emerged, $F(1.90, 171.29) = 15.40$, $p < .001$, $\mu^2 = 0.15$. Post-hoc tests using the Bonferroni correction revealed that children made a significantly greater number of explicit ($M = 1.57$, $SD = 2.43$) and inference ($M = 1.23$, $SD = 1.96$) requests than repeats ($M = 0.35$, $SD = 0.77$), $ps < .001$, but explicit and inference requests did not differ significantly from each other, $p = .40$.

Regarding clarification 'triggers', children made most clarification requests in response to invitation prompts (68%) followed by directive (18%) and option posing (13%) prompts. Suggestive and summary prompts each triggered fewer than 1% of the children's requests for clarification. The near floor effects for suggestive and summary prompts precluded examining these prompt types. Thus, a 3 (prompt type: invitation vs. directive vs. option posing) repeated-measures ANOVA examined the number of children's clarification requests that were triggered by invitation, directive, and option posing prompts. Mauchly's test indicated that the sphericity assumption was violated, $\chi^2(2) = 101.70$, $p < .001$. A significant effect of prompt type emerged, $F(1.20, 107.69) = 31.62$, $p < .001$, $\mu^2 = 0.26$. Post-hoc tests using the Bonferroni correction revealed that all prompt types were significantly different from each other. That is, more clarification requests were triggered by invitation prompts ($M = 2.19$, $SD = 3.13$) than directive ($M = 0.66$, $SD = 1.13$) and option posing prompts ($M = 0.26$, $SD = 0.57$). Furthermore, more clarification requests were triggered by directive than option posing prompts.

We were interested in whether the manner in which children requested clarification differed depending on the type of interviewer 'trigger' prompt. Thus, we conducted a 3 (clarification type: explicit vs. repeats vs. inference) × 3 (prompt type: invitation vs. directive vs. option posing) repeated-measures ANOVA to examine the interaction between clarification type and prompt type on the number of children's clarification requests in each category (Figure 2). Mauchly's

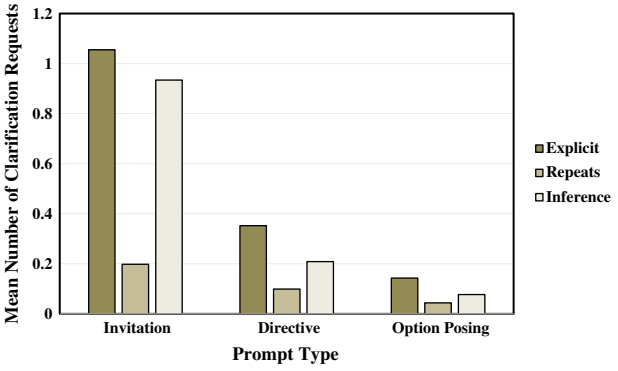

Figure 2. Number of explicit, repeats, and inference clarification requests triggered by each prompt type (invitation, directive, and option posing)

test indicated that the sphericity assumption was violated, $\chi^2(9) = 125.45$, $p < .001$. There was a significant clarification type × prompt type interaction, $F(2.75, 247.12) = 8.12$, $p < .001$, $\mu^2 = 0.08$. Follow-up analyses were conducted within prompt, and then post-hoc tests with the Bonferroni correction were examined for all significant effects. For invitation prompts, a significant effect of clarification type emerged, $F(2, 180) = 12.95$, $p < .001$, $\mu^2 = 0.13$. Invitation prompts triggered significantly more explicit and inference requests than repeats ($ps < .001$). For directive prompts, there was also a significant effect of clarification type, $F(1.81, 162.56) = 4.16$, $p = .019$, $\mu^2 = 0.05$. As with invitations, directive prompts elicited significantly more explicit than repeats requests ($p = .013$); however, there was no significant difference between the number of inferences and repeated requests in response to directive prompts. Finally, regarding option posing prompts, there were no significant differences in how children requested clarification (Figure 2).

What factors were associated with how often and how children requested clarification?

First, we conducted a negative binomial Poisson regression analysis to examine child age and alleged abuse frequency in relation to children's total requests for clarification in investigative interviews. Because clarification requests represented count data and the data were over-dispersed, negative binomial Poisson regressions were most appropriate to examine the effects of age and abuse frequency (Coxe, West, & Aiken, 2009). The model was significant, $\chi^2(3) = 9.08$, $p = .028$. As expected, controlling for total child utterances, there was a significant effect of child age. For every 1-year increase in child age, the expected log count of the total clarification requests increased by 0.15 ($p = .005$). However, alleged abuse frequency was unrelated to children's total clarification requests.

Second, we conducted three negative binomial Poisson regression analyses to examine the effects of age and alleged abuse frequency on the total number of explicit, repeats, and inference clarification requests made by children. The model predicting the total inference clarification requests was significant, $\chi^2(3) = 8.07$, $p = .045$. Controlling for total child utterances, there was a significant effect of age on children's total inference requests. For every 1-year increase in child age, the expected log count of the number of inference clarification requests increased by 0.19 ($p = .004$). However, the total explicit and repeats requests were unrelated to child age, and none of the clarification types were associated with alleged abuse frequency.

How did interviewers respond to children's requests for clarification? Interviewer interventions

Interviewers most often responded to children's clarification requests by rephrasing the prompts (50.6%) with almost equal proportions split between reiterating (24.6%) and explaining (24.8%) the prompts. In a 3 (interviewer intervention type: reiterates vs. explains vs. rephrases) repeated-measures ANOVA, a significant effect of interviewer intervention type emerged, $F(2, 180) = 9.82$, $p < .001$, $\mu^2 = 0.10$. Post-hoc tests with the Bonferroni correction revealed that interviewers responded more by rephrasing the trigger prompts ($M = 1.45$, $SD = 1.91$) than by reiterating ($M = 0.86$, $SD = 1.33$) or explaining ($M = 0.85$, $SD = 1.56$) the trigger prompts ($ps = .001$), with the reiterates and explains interventions not differing significantly from each other.

We were interested in whether interviewers' interventions depended on how children requested clarification. We conducted a 3 (clarification type: explicit vs. repeats vs. inference) × 3 (interviewer intervention type: reiterates vs. explains vs. rephrases) repeated-measures ANOVA to examine the interaction between children's clarification type and the manner in which interviewers responded (Figure 3). Mauchly's test revealed that the sphericity assumption was violated, $\chi^2(9) = 74.50$, $p < .001$. The interaction was significant, $F(2.83, 254.64) = 12.48$, $p < .001$, $\mu^2 = 0.12$. Follow-up analyses examining the effect of interviewer intervention type within each clarification type revealed significant differences in interviewer interventions for the explicit, $F(1.76, 158.63) = 17.80$, $p < .001$, $\mu^2 = 0.17$, and repeats, $F(1.78, 159.87) = 3.31$, $p = .045$, $\mu^2 = 0.04$, clarification requests. Thus, pairwise comparisons were examined.

First, when children made explicit requests, interviewers responded by rephrasing the prompt significantly more than reiterating or explaining it ($ps \leq .001$). When children made repeats requests, interviewers responded by rephrasing the prompt significantly more than explaining it ($p = .020$). However, there were no significant differences in interviewer interventions when children made inference requests for clarification (Figure 3).

What factors were associated with how interviewers responded to children's clarification requests?

We examined the effects of age and alleged abuse frequency on interviewer interventions. Because these analyses excluded children who did not request clarification, three linear regression analyses examining the effects of age and alleged abuse frequency were conducted on the proportion of interviewers' responses that were coded as reiterates, explains, and rephrases. No significant effects emerged. Thus, interviewers responded to children's requests for clarification using similar interventions regardless of child age or whether the child alleged one incident or more than one incident of abuse.

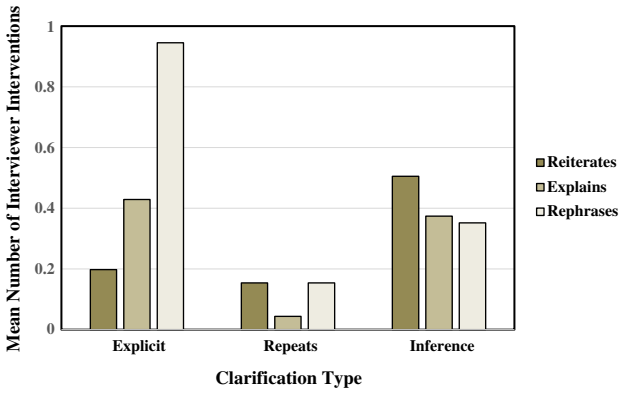

Figure 3. Number of reiterates, explains, and rephrases interviewer interventions in response to each clarification type (explicit, repeats, and inference)

Did interviewer interventions help with children's subsequent responses?

Most of the responses to children's clarification requests were relevant (84%; Figure 4). A 3 (interviewer intervention type: reiterates vs. explains vs. rephrases) × 2 (child response: relevant vs. uninformative) repeated-measures ANOVA revealed floor effects for the uninformative responses. Thus, a 3 (interviewer intervention type: reiterates vs. explains vs. rephrases) repeated-measures ANOVA was conducted to examine whether more of the children's relevant responses were provided in response to particular interviewer interventions. There were no significant differences. That is, children were as likely to provide relevant responses when interviewers reiterated the prompt ($M = 2.78$, $SD = 1.27$), explained it ($M = 2.56$, $SD = 1.50$), or rephrased it ($M = 3.11$, $SD = 1.81$).

A linear regression analysis tested the effects of child age and alleged abuse frequency on the proportion of children's relevant responses following interviewer interventions. The model was not significant. Thus, age and abuse frequency were unrelated to children's relevant responses to interviewer interventions.

DISCUSSION

Requesting clarification in investigative interviews is a critical component of ensuring that interviewers gather useful and accurate information from interviewees. This is particularly challenging with young interviewees because their communicative skills are still developing, and they may not indicate when clarification is necessary for their comprehension. Although researchers have investigated children's clarification requests in experimental studies, no prior research had examined such requests in the investigative interview context. The goals of the present study were to examine how often and how children requested clarification in actual investigative interviews about suspected sexual abuse as well as how interviewers responded to children's requests. Rather than examining children's tendencies in laboratory analogue settings, we sought to provide a descriptive analysis of this phenomenon in the 'real world'.

Consistent with laboratory research (e.g., Carter et al., 1996; Saywitz et al., 1999), children rarely requested clarification. In fact, in 32% of the interviews, no requests for clarification were made whatsoever. Possible explanations for the lack or rarity of clarification requests include that (i) children understood all or most interview prompts fully and thus did not need clarification, (ii) children did not understand some interview prompts but failed to recognize their lack of comprehension, and/or (iii) children recognized that they did not understand some interview prompts but nonetheless failed to request clarification, perhaps owing to social reasons such as deference to adult authority or social demand characteristics.

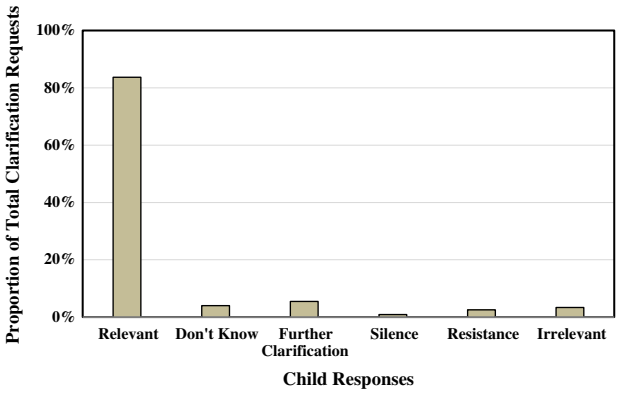

Figure 4. Proportion of child responses to interviewer interventions out of total clarification requests

The first explanation—that children understood all or most of the prompts posed by the interviewers—seems highly unlikely given research demonstrating that investigative interviewers tend to ask complex questions and rarely adapt their language to children's ages (Evans et al., 2009; Walker, 1999). Also, some questions may simply be unanswerable even when they are constructed in a developmentally appropriate manner. Unlike laboratory settings in which interviewers can easily discern answerable from unanswerable questions (Waterman et al., 2000, 2001, 2004), investigative interviewers typically do not have 'ground truth'. With no objective record of events, interviewers may not be aware that they are asking difficult or even unanswerable questions so such questions are quite likely to be posed in interviews. Finally, with age, children made significantly *more* requests for clarification, a finding that emerged even when we controlled for the total number of utterances by the children. Because vocabulary and communicative abilities improve with age, thus potentially limiting misunderstandings (Walker, 1999), the tendency to make *more* clarification requests with age provides further evidence that an absence of clarification requests is not indicative of complete comprehension.

Comprehension failure and demand characteristics thus appear to be more compelling explanations for our findings. With age, children may have made more requests for clarification because their enhanced comprehension monitoring and metacognitive skills allowed them to better recognize when they needed clarification. Our findings are consistent with research demonstrating that young children in particular may fail to monitor their comprehension accurately (e.g., Markman, 1977; Perry et al., 1995). With age, children may become more comfortable admitting the need for clarification despite interview demand characteristics calling for responses to every question. Or, through experience, older children may have learned more and more effective strategies for requesting clarification. Because this was a field study, we were unable to tease apart these explanations, but future research should examine the various possibilities.

When children requested clarification, they tended to do so explicitly (e.g., 'What do you mean?') with approximately half of children's total clarification request categorized as explicit. It is not surprising that children tended to rely on the explicit approach because this most closely resembles how children are told to request clarification in the pre-substantive phase of the NICHD Protocol. Still, 36% of the children's clarification requests were in the inference format in which children guessed at the interviewer's meaning, much like adults do in conversations with children (Beal & Flavell, 1983). As inference requests appear to represent a

more sophisticated type of clarification request, it is not surprising that, as hypothesized, children made more of these requests with age. As children grow older, they learn how to talk about past events and what information is important to report (Nelson, 1993; Nelson & Fivush, 2004). Thus, it may have been easier for older children to make inference requests in these interviews because they were generally better able to predict the narrative components of most interest to others, including adult interviewers.

Most of the clarification requests were made in response to open-ended invitation prompts. It is not simply that invitations were the most common prompts, however. For example, invitation prompts represented 36% of the interviewer prompts; yet, 68% of children's clarification requests were triggered by invitation prompts. The aspects of invitation prompts that triggered children's requests for clarification remain unclear. The absence of interviewer input is what makes invitation prompts superior to other types of prompts from a forensic perspective, but the vague nature of these prompts may have led to requests for clarification. Alternately, children may have been confused by vague requests for more information about incidents they thought they had already described. Future experimental research will need to tease apart these and other possibilities.

Although children were most likely to indicate a need for clarification in response to invitations, interviewers should not ask fewer invitation prompts and instead rely on more closed-ended questions. Decades of research indicates that accessing children's free-recall memory via invitations to narrate elicits the most accurate information (e.g., Dent & Stephenson, 1979; Hutcheson, Baxter, Telfer, & Warden, 1995). Moreover, the current study illustrated that invitation prompts not only promote richer narratives but also enhance children's tendencies to indicate misunderstandings and to apply the ground rules that they were given in the pre-substantive phase of the interviews. These findings thus underscore the need for ensuring that interviewers are prepared to respond appropriately to children's clarification requests, especially in response to open-ended prompts.

Regarding interviewers' responses to children's clarification requests, no particular intervention strategy was dominant. Rephrasing was the most common intervention (51%), whereas reiterates and explains were evenly split at approximately 25% each. Interviewer interventions did not differ by child age. Furthermore, although interviewers appeared to vary their interventions slightly when responding to explicit and repeats requests, there was no difference in interviewer intervention type for inference requests. It is perhaps not surprising that interviewer interventions did not follow a reliable pattern. The NICHD Protocol prepares interviewers for all phases of the investigative interview (including training interviewers in how to encourage children to request clarification during the pre-substantive phase). However, there are no specific guidelines concerned with how interviewers should respond to children's requests for clarification, although interviewers are expected to abide by the general principles of the NICHD Protocol, relying on open-ended prompts as much as possible and avoiding suggestive ones. The present study suggests that interviewers may benefit from specific training in responding to children's clarification requests especially because 16% of the interviewers' interventions elicited uninformative responses from children.

Limitations and future directions

There are several limitations worth noting. First, unlike the laboratory research on this topic, we were unable to determine whether interviewers' prompts were 'answerable' or 'unanswerable'. In other words, we could not reliably identify instances in which children *should* have requested clarification but failed to do so. This is a natural outgrowth of working with real-world forensic materials such as these investigative interviews conducted by police officers. However, it is imperative to conduct descriptive field research alongside experiments to understand children's requests for clarification and interviewers' interventions in current practice. Future descriptive field research would also benefit from examining video-recorded interactions between interviewers and children. Perhaps some children, especially younger ones, indicate their need for clarification nonverbally (e.g., confused facial expressions).

Second, although we coded interviewers' interventions to children's requests and children's responses to these interventions, we cannot make claims about the effectiveness of particular interviewer interventions. We were limited to coding whether children's responses were 'relevant', which meant that they appeared to answer the interviewer's prompts in sensible ways and seldom considered responses to be 'irrelevant'. However, we were unable to judge whether interviewer interventions yielded *accurate* responses from children. Future laboratory research should test the effectiveness of the specific strategies identified in this field study of investigative interviewer behavior. It would be beneficial if these laboratory studies involved asking children about stressful events for which there were objective records.

Finally, future research should focus on developmental and individual differences in children's ability and willingness to request clarification so that intervention strategies may be targeted more effectively. For example, Waterman and Blades (2013) found that children who had better self-perceptions (e.g., perceived competence) and verbal ability were more likely to correctly say 'don't know' in interviews about a classroom-staged event. Laboratory research on this topic should thus include standardized measures of children's verbal ability. This will allow for an examination of whether gender differences in verbal ability influence children's clarification requests, which was difficult to test meaningfully in the primarily female field sample here. Also, given associations between verbal ability and socioeconomic status (Bradley & Corwyn, 2002), future studies should include children of varying socioeconomic status and diverse cultural backgrounds. This will help researchers understand the many variables that may affect children's requests for clarification. Interventions should be targeted not just at increasing children's 'don't know' responses but also helping children to indicate when they need clarification.

CONCLUSIONS

As Waterman and Blades (2011, p. 404) have noted,

> In any question–answer exchange, children will almost inevitably be asked a question to which they do not know the answer, and, importantly, where the adult is not aware whether the child knows the answer. The consequences are particularly grave in legal or forensic settings but are also relevant in clinical, medical, school, and research contexts. For example, in their review of child development research published in two key journals (*Developmental Psychology* and *Child Development*), Fritzley and Lee (2003) reported that 75% of the studies conducted with young children relied on questioning children to gather data. For research purposes alone, it is imperative to understand how and in what circumstances children request clarification from adult interviewers. Also, it is critical to examine the types of prompts that trigger children's requests and the factors that influence their requests (e.g., child age).

This line of research is not only informative to those who interview children in various formal and informal contexts but also advances our understanding of children's cognitive development. Comprehension monitoring is thought to be an important aspect of cognitive development (Markman, 1977, 1979), and requesting clarification may be a key way in which children demonstrate more advanced comprehension monitoring skills.

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REFERENCES

Ahern, E. C., & Lyon, T. D. (2013). Facilitating maltreated children's use of emotional language. *Journal of Forensic Social Work*, *3*, 176–203. DOI: 10.1080/1936928X.2013.854124

Beal, C., & Flavell, J. (1983). Young speakers' evaluation of their listener's comprehension in a referential communication task. *Child Development*, *54*, 148–153. DOI: 10.2307/1129871

Bjorklund, D. F., Cassel, W. S., Bjorklund, B. R., Brown, R. D., Park, C. L., Ernst, K., & Owen, F. A. (2000). Social demand characteristics in children's and adults' eyewitness memory and suggestibility: The effect of different interviewers on free recall and recognition. *Applied Cognitive Psychology*, *14*, 421–433. DOI: 10.1002/1099-0720(200009)14:5

Bradley, R.H., & Corwyn, R.F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, *53*, 371–399.

Brubacher, S. P., Malloy, L. C., Lamb, M. E., & Roberts, K. P. (2013). How do interviewers and children discuss individual occurrences of alleged repeated abuse in forensic interviews? *Applied Cognitive Psychology*, *27*, 443–450. DOI: 10.1002/acp.2920

Brubacher, S. P., Powell, M. B., & Roberts, K. P. (2014). Recommendations for interviewing children about repeated experiences. *Psychology, Public Policy, & Law*, *20*, 325–335. DOI: 10.1037/law0000011

Bruck, M., Ceci, S. J., & Principe, G. F. (2006). The child and the law. In K. A. Renninger, I. E. Sigel, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology* (6th ed., Vol. 4, pp. 776–816). Hoboken, NJ: Wiley.

Carter, C. A., Bottoms, B. L., & Levine, M. (1996). Linguistic and socioemotional influences on the accuracy of children's reports. *Law and Human Behavior*, *20*, 335–358. DOI: 10.1007/BF01499027

Connolly, D. A., & Read, J. D. (2006). Delayed prosecutions of historic child sexual abuse: Analyses of 2064 Canadian criminal complaints. *Law and Human Behavior*, *30*, 409–434. DOI: 10.1007/s10979-006-9011-6

Coxe, S., West, S. G., & Aiken, L. S. (2009). The analysis of count data: A gentle introduction to Poisson regression and its alternatives. *Journal of Personality Assessment*, *91*, 121–136. DOI: 10.1080/00223890802634175

Dent, H. R., & Stephenson, G. M. (1979). An experimental study of the effectiveness of different techniques of questioning child witnesses. *British Journal of Social and Clinical Psychology*, *18*, 41–51. DOI: 10.1111/j.2044-8260.1979.tb00302.x

Evans, A. D., Lee, K., & Lyon T. D. (2009). Complex questions asked by defense lawyers but not prosecutors predicts convictions in child abuse trials. *Law & Human Behavior*, *33*, 258–264. DOI: 10.1007/s10979-008-9148-6

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist*, *34*, 906–911. DOI: 10.1037/0003-066X.34.10.906

Fritzley, V. H., & Lee, K. (2003). Do young children always say yes to yes-no questions? A metadevelopmental study of the affirmation bias. *Child Development*, *74*, 1297–1313. DOI: 10.1111/1467-8624.00608

Gelles, R. J., & Brigham, R. (2011). Child protection considerations in the United States. In M. E. Lamb, D. J. La Rooy, L. C. Malloy, & C. Katz (Eds.), *Children's testimony: A handbook of psychological research and forensic practice* (2nd ed., pp. 403–421). United Kingdom: Wiley-Blackwell Publishing, Ltd. DOI: 10.1002/9781119998495

Hershkowitz, I., Lamb, M. E., Orbach, Y., Katz, C., & Horowitz, D. (2012). The development of communicative and narrative skills among preschoolers: Lessons from forensic interviews about child abuse. *Child Development*, *83*, 611–622. DOI: 10.1111/j.1467-8624.2011.01704.x

Hershkowitz, I., Orbach, Y., Lamb, M. E., Sternberg, K. J., & Horowitz, D. (2006). Dynamics of forensic interviews with suspected abuse victims who do not disclose abuse. *Child Abuse & Neglect*, *30*, 753–769. DOI: 10.1016/j.chiabu.2005.10.016

Home Office. (1992). *Memorandum of good practice on video recorded interviews with child witnesses for criminal proceedings*. London: Author with Department of Health.

Home Office. (2011). *Achieving best evidence in criminal proceedings: Guidance on interviewing victims and witnesses, and using special measures*. London: Author.

Hughes, M., & Grieve, R. (1980). On asking children bizarre questions. *First Language*, *1*, 149–160. DOI: 10.1177/014272378000100205

Hutcheson, G. D., Baxter, J. S., Telfer, K., & Warden, D. (1995). Child witness statement quality: Question type and errors of omission. *Law and Human Behavior*, *19*, 641–648. DOI: 10.1007/BF01499378

Imhoff, M. C., & Baker-Ward, L. (1999). Preschoolers' suggestibility: Effects of developmentally appropriate language and interviewer supportiveness. *Journal of Applied Developmental Psychology*, *20*, 407–429. DOI: 10.1016/S0193-3973(99)00022-2

Katz, C., & Hershkowitz, I. (2012). The effect of multipart prompts on children's testimonies in sexual abuse investigations. *Child Abuse & Neglect*, *36*, 753–759. DOI: 10.1016/j.chiabu.2012.07.002

Lamb, M. E., Hershkowitz, I., Orbach, Y., & Esplin, P. W. (2008). *Tell me what happened: Structured investigative interviews of child victims and witnesses*. Hoboken, NJ: Wiley.

Lamb, M. E., Hershkowitz, I., Sternberg, K. J., Esplin, P. W., Hovav, M., Manor, T., & Yudilevitch, L. (1996). Effects of investigative utterance types on Israeli children's responses. *International Journal of Behavioural Development*, *19*, 627–637. DOI: 10.1080/016502596385721

Lamb, M. E., Malloy, L. C., Hershkowitz, I., & La Rooy, D. (in press). Children and the law. In R. M. Lerner (General Ed.), & M. E. Lamb (Vol. Ed.), *Handbook of child psychology and developmental science* (7th ed.), Volume *3*, Social, emotional and personality development. Hoboken, NJ: Wiley.

Laupa, M. (1994). "Who's in charge?" Preschool children's concepts of authority. *Early Childhood Research Quarterly*, *9*, 1–17. DOI: 10.1016/0885-2006(94)90026-4.

Lyons, K. E., & Ghetti, S. (2010). Metacognitive development in early childhood: New questions about old assumptions. In A. Efklides & P. Misailidi (Eds.), *Trends and prospects in metacognitive research* (pp. 259–278). New York: Springer US.

Malloy, L. C., Lamb, M. E., & Katz, C. (2010). Children and the law: Examples of applied developmental psychology in action. In M. H. Bornstein & M. E. Lamb (Eds.), *Developmental science: An advanced textbook* (6th ed., pp. 645–686). New York: Taylor and Francis.

Markman, E. M. (1977). Realizing that you don't understand: A preliminary investigation. *Child Development*, *48*, 986–992. DOI: 10.2307/1128350

Markman, E. M. (1979). Realizing that you don't understand: Elementary school children's awareness of inconsistencies. *Child Development*, *50*, 643–655. DOI: 10.2307/1128929

Nelson, K. (1993). *Developing self-knowledge from autobiographical memory*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Nelson, K., & Fivush, R. (2004). The emergence of autobiographical memory: A social cultural developmental theory. *Psychological Review*, *111*, 486–511. DOI: 10.1037/0033-295X.111.2.486

Owens, R. E. (1988). *Language development*. Columbus, OH: Merrill.

Perry, N. W., McAuliff, B. D., Tam, P., Claycomb, L., Dostal, C., & Flanagan, C. (1995). When lawyers question children: Is justice served? *Law and Human Behavior*, *19*, 609–629. DOI: 10.1007/BF01499377

Perry, N. W., McAuliff, B. D., Tam, P., Claycomb, L., Dostal, C., & Flanagan, C. (2001). When lawyers question children: Is justice served? In R. Bull (Ed.), *Children and the law* (pp. 304–332). UK: Blackwell.

Pratt, C. (1990). On asking children—and adults—bizarre questions. *First Language*, *10*, 167–175. DOI: 10.1177/014272379001002905

Revelle, G. L., Wellman, H. M., & Karabenick, J. D. (1985). Comprehension monitoring in preschool children. *Child Development*, *56*, 654–663. DOI: 10.2307/1129755

Roderer, T., & Roebers, C. M. (2010). Explicit and implicit confidence judgments and developmental differences in metamemory: An eye-tracking approach. *Metacognition and Learning*, *5*, 229–250. DOI: 10.1007/s11409-010-9059-z

Roebers, C. M. (2006). Developmental progression in children's strategic memory regulation. *Swiss Journal of Psychology*, *65*, 193–200. DOI: 10.1024/1421-0185.65.3.193

Roebers, C. M., & Fernandez, O. (2002). The effects of accuracy motivation and children's and adults' event recall, suggestibility, and their answers to unanswerable questions. *Journal of Cognition and Development*, *3*, 415–443. DOI: 10.1207/S15327647JCD3,4-03

Saywitz, K., Jaenicke, C., & Camparo, L. (1990). Children's knowledge of legal terminology. *Law and Human Behavior*, *14*, 523–535. DOI: 10.1007/BF01044879.

Saywitz, K., & Snyder, L. (1993). Improving children's testimony with preparation. In G. Goodman & B. Bottoms (Eds.), *Child victims, child witnesses: Understanding and improving testimony* (pp. 117–146). New York: Guilford.

Saywitz, K. J., Snyder, L., & Nathanson, R. (1999). Facilitating the communicative competence of the child witness. *Applied Developmental Science*, *3*, 58–68. DOI: 10.1207/s1532480xads0301_7

Walker, A. G. (1999). *Handbook on questioning children: A linguistic perspective* (2nd ed.). Washington, DC: ABA Center on Children and the Law.

Wandrey, L., Lyon, T. D., Quas, J. A., & Friedman, W. F. (2012). Maltreated children's ability to estimate temporal location and numerosity of placement changes and court visits. *Psychology, Public Policy, and Law*, *18*, 79–104. DOI: 10.1037/a0024812

Waterman, A. H., & Blades, M. (2011). Helping children correctly say "I don't know" to unanswerable questions. *Journal of Experimental Psychology: Applied*, *17*, 396–405. DOI: 10.1037/a0026150

Waterman, A. H., & Blades, M. (2013). The effect of delay and individual differences on children's tendency to guess. *Developmental Psychology*, *49*, 215–226. DOI: 10.1037/a0028354

Waterman, A. H., Blades, M., & Spencer, C. P. (2000). Do children try to answer nonsensical questions? *British Journal of Developmental Psychology*, *18*, 211–225. DOI: 10.1348/026151000165652

Waterman, A. H., Blades, M., & Spencer, C. P. (2001). Interviewing children and adults: The effect of question format on the tendency to speculate. *Applied Cognitive Psychology*, *15*, 521–531. DOI:10.1002/acp.741

Waterman, A. H., Blades, M., & Spencer, C. P. (2004). Indicating when you do not know the answer: The effect of question format and interviewer knowledge on children's 'don't know' responses. *British Journal of Developmental Psychology*, *22*, 335–348. DOI: 10.1348/0261510041552710