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## 56. Pragmatic Failure and Referential Ambiguity when Attorneys Ask Child Witnesses “Do You Know/Remember” Questions.

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# Pragmatic Failure and Referential Ambiguity When Attorneys Ask Child Witnesses “Do You Know/Remember” Questions

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“Do you know” and “Do you remember” (DYK/R) questions explicitly ask whether one knows or remembers some information while implicitly asking for that information. This study examined how 4- to 9-year-old ( $N = 104$ ) children testifying in child sexual abuse cases responded to DYK/R wh- (who, what, where, why, how, and which) and yes/no questions. When asked DYK/R questions containing an implicit wh- question requesting information, children often provided unelaborated “yes” responses. Attorneys’ follow-up questions suggested that children usually misunderstood the pragmatics of the questions. When DYK/R questions contained an implicit yes/no question, unelaborated “yes” or “no” responses could be responding to the explicit or the implicit questions resulting in referentially ambiguous responses. Children often provided referentially ambiguous responses and attorneys usually failed to disambiguate children’s answers. Although pragmatic failure following DYK/R wh- questions decreased with age, the likelihood of referential ambiguity following DYK/R yes/no questions did not. The results highlight the risks of serious miscommunications caused by pragmatic misunderstanding and referential ambiguity when children testify.

*Keywords:* child witnesses, pragmatics, referential ambiguity, testimony

In applied psychology, research on questioning children has focused on accuracy and productivity, with less attention paid to miscommunication and ambiguity (Lamb, Hershkowitz, Orbach, & Esplin, 2008; Poole, 2016). Children’s difficulty in understanding the implied meaning of questions can lead to miscommunication (an issue in pragmatic development; Shatz, 1978a), and both adults and children can fail to recognize the ambiguity of children’s answers (an issue in cognitive development; Matthews, Lieven, & Tomasello, 2007). This study examined one way in which child witnesses’ failure to understand the implied meaning of questions may lead to miscommunication and ambiguity. We identified “Do you know” and “Do you remember” (DYK/R) questions asked of child witnesses that explicitly asked whether children knew or remembered information while implicitly asking for that information. We distinguished between DYK/R wh- ques-

tions, which could lead to incomplete responding, and DYK/R yes/no questions, which could lead to ambiguous responding. Below we review the relevant literature on children’s pragmatic and cognitive development to understand the potential for children to misunderstand implicit questions and for adults and children to overlook ambiguous answers.

## Pragmatic Failure When Children Give “Yes” Responses to DYK/R Questions that Implicitly Ask a Wh- Question

Pragmatics distinguishes between sentence meaning and speaker meaning. Sentence meaning refers to the literal meaning of the sentence, whereas speaker meaning is what the speaker is trying to convey. For example, if one asks, “Do you know where the meeting will be?” one is literally asking whether the addressee knows the answer. Implicitly one is also asking “and if you do know, tell me where.” Questions in which one is explicitly asking about the knowledge state of the respondent and implicitly asking the respondent to share that knowledge are examples of indirect speech acts (Clark, 1979). “Do you know where the meeting will be?” is an indirect speech act because one is indirectly requesting an answer to the question, “Where will the meeting be?”

Imagine that an addressee answers an indirect speech act with a simple “yes.” Assuming the respondent is honest, such a response would be true but inappropriate according to conversational norms (Andor, 2011). By answering only the literal question the respondent is either failing to recognize the implicit question or refusing to answer it. We will refer to this type of failure (providing an

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unelaborated “yes” response to an indirect speech act) as pragmatic failure.

Researchers have explored the development of children’s understanding of indirect speech acts, but have focused on indirect speech acts that implicitly request an action (e.g., “Can you close the door?”) rather than implicitly ask a question. Even very young children are remarkably proficient at responding appropriately to indirect speech acts about actions. For example, Shatz (1978a) found that among children as young as 19 months of age, only 9% responded literally to indirect speech acts by simply responding “yes.” Indeed, Shatz (1978b) found that when a question could be interpreted as either a direct request for information or as an implied request for action, 19- to 34-month-old children preferentially interpreted the question as a request for action. Several studies have found that young children can be as responsive to indirect speech acts as direct speech acts, particularly when a conventional form is used (such as “Can you” or “Would you like to”) and the to-be-requested action is easily identified (Bara & Bucciarelli, 1998; Bucciarelli, Colle, & Bara, 2003; Reeder, 1980).

Indirect speech acts that imply a question, rather than an easily identified action, may be more difficult for young children. We are aware of only one experimental study examining how young children respond to indirect speech acts that imply questions (Evans, Stolzenberg, Lee, & Lyon, 2014). Evans and colleagues (2014) questioned 2- to 7-year-old maltreated and nonmaltreated children about the details of a story after a short delay. When asked “Do you know” (DYK) questions with an implied wh- question (e.g., “Do you know what Jesse’s dad said?”), children gave unelaborated “yes” responses 14–18% of the time. Pragmatic failure decreased with age. Walker and Hunt’s (1998) analysis of 42 transcripts of child protective services interviews with 2- to 13-year-olds suggested that indirect speech acts might be especially problematic in child interviews (also see Walker, 1993). Twenty-eight percent of children gave unelaborated “yes” responses to “Can you tell me” or “Can you show me” questions that implicitly contained a wh- question. As in the experimental work, pragmatic failure decreased with age. Hence, there is some evidence of pragmatic failure among young children when responding to indirect speech acts with an embedded wh- question.

Not all DYK/R questions are indirect speech acts, and this may increase children’s difficulties in recognizing when adults are implying questions. First, one may ask, “Do you know” or “Do you remember” questions without an embedded question (e.g., “Do you know the defendant?”). Second, even when a DYK/R question contains an embedded question, the questioner may only be asking for a literal response. Researchers have identified two types of DYK/R questions that tend not to be indirect speech acts. First, Richardson (1993) reviewed 13 transcripts of 12 children between 3 to 12 years of age testifying about sexual abuse, and noted that attorneys often asked DYK/R questions using the words “the time” or “when” as introductions to questions about a particular event, rather than as indirect speech acts implicitly requesting temporal information. For example, an attorney might ask, “Do you remember *the time that Uncle Bill touched you?*” using the term “the time” to refer to the event rather than temporal location. In such a case, an unelaborated “yes” response would not constitute pragmatic failure because the child was not expected to provide temporal information. Richardson (1993) found that children sometimes responded with reference to the time of the event,

thus signifying that they falsely assumed that a temporal question had been implied.

Second, Evans and Lyon (2012) reviewed 318 transcripts of 3- to 15-year-old children answering truth-lie competency questions and found that attorneys frequently asked DYK questions about definitions as introductions to the topic and then follow up with closed-ended questions about the meaning of the terms. For example, an attorney might ask, “Do you know the difference between the truth and a lie?”, and follow up with closed-ended questions to ascertain the child’s comprehension (e.g., “If I said this pen was red, would that be the truth or a lie?”). Again, an unelaborated “yes” response to the DYK question would not constitute pragmatic failure because the child was not expected to spontaneously define the term.

There may be other situations in which attorneys ask DYK/R questions without expecting an answer to the implicit question. To respond appropriately, children must be able to determine when DYK/R questions are indirect speech acts and when they are not. The fact that not all DYK/R questions are indirect speech acts may make responding in the real world particularly difficult for young children.

### Referential Ambiguity When Children Give “Yes” or “No” Responses to DYK/R Questions that Implicitly Ask a Yes/No Question

In practice, pragmatic failure might seem like a minor inconvenience. If a DYK/R question is in fact an indirect speech act with an implicit wh- question, and the child simply responds “yes,” the answer is obviously incomplete. In turn, the attorney can simply follow up with the wh- question that was implicitly asked. For example, if the child responds “yes” to “Do you remember where it happened?”, the attorney can simply follow up with “Where did it happen?” Moreover, pragmatic failure only occurs when children provide unelaborated “yes” responses to indirect speech acts. Unelaborated “No” responses to DYK/R wh- questions are entirely appropriate; they signify that the child does not know or remember the answer to the implicit question.

Possible pragmatic failure leads to a more serious problem if the DYK/R question contains an implicit yes/no question. For example, consider “Do you remember if it was in the house?”. Both unelaborated “yes” and “no” responses are referentially ambiguous because the respondent could be answering either the literal or the implicit question. A “yes” could mean “Yes, I *remember* if it was in the house” (literal) or “Yes, it *was* in the house” (implicit). A “No” might mean “No, I *don’t remember* if it was in the house” (literal) or “No, it *wasn’t* in the house” (implicit). A slightly different problem is posed by questions that we will refer to as gerund questions. This is when the word following DYK/R is an -ing form of a verb functioning as a noun (e.g., “Do you remember *going* to the house?”). An unelaborated “yes” response to such a question is unambiguous; one is saying “Yes, I *remember going* to the house.” However, a “No” response is referentially ambiguous because one could mean “No, I *don’t remember going*” or “No, I *didn’t go*.”

Children’s developing ability to recognize ambiguities in speech has long been of interest to cognitive developmentalists, and substantial development has been identified during the preschool and early school years (Cosgrove & Patterson, 1977; Glucksberg,

Krauss, & Weisberg, 1966; Matthews et al., 2007). Both children and adults are most likely to be misled by referentially ambiguous statements when an interpretation is readily available, which forecloses consideration of alternative interpretations (Keysar, Barr, & Horton, 1998). Some types of ambiguity are harder to detect (and only detected at later ages). For example, syntactic ambiguity (e.g., does “The duck is ready to eat” mean that the duck will eat or be eaten?) is subtler than phonological ambiguity (e.g., did the speaker mean “three pairs” or “three pears”?) or lexical ambiguity (e.g., did the speaker use “tank” to refer to an army tank or a gas tank?) (Kessel, 1970; Shultz & Pilon, 1973).

We suspect that both children and attorneys have only limited awareness of the referentially ambiguous nature of DYK/R questions containing implicit yes/no questions. The ambiguity of an unelaborated “yes” or “no” response is subtle because one has to generate the alternative interpretations to identify the ambiguity. For example, if a child is asked, “Do you remember if it was dark?”, and answers “No,” the attorney must mentally generate “No, I don’t remember” and “No, it wasn’t dark” to recognize the ambiguity. If the attorney is expecting an answer to the implicit question (“Was it dark?”), then it is easy to interpret a “No” response as “No, it wasn’t dark,” thus foreclosing recognition that the child might really be saying “No, I don’t remember.”

The problems with DYK/R questions that contain implicit yes/no questions have been largely overlooked in the legal and linguistic literatures, with one exception. In a case study of a 5-year-old testifying in court, Walker (1993; also see Walker, 1999) criticized the use of DYK/R questions on the basis of their ambiguity. However, several of her examples contained additional layers of complexity (e.g., “Do you remember Martha asking you, ‘Do you know who Mark is?’”), or stacked questions (“And you drew a picture of yourself with a smiling face, didn’t you? Do you remember?”), making it difficult to determine whether the “Do you remember” form was inherently difficult. Moreover, in one of her examples, the attorney asked a follow-up question that disambiguated the child’s response (“You didn’t say it, or you don’t remember it?”), raising the issue of whether and how often the ambiguities went undetected.

Pragmatic failure and difficulties with referential ambiguity are particularly likely to occur in court because the stressfulness of courtroom testimony is likely to tax children’s attentional resources. Difficulties with disambiguating speech have been linked to limited working memory (MacDonald, Just, & Carpenter, 1992) and limited inhibitory control (Evans et al., 2014). To recognize ambiguity, one has to hold the different possible interpretations in mind. Further, one must inhibit or delay an impulsive “yes” response to the explicit request of whether they know information to be able to respond to the implicit request. Children respond less accurately to questions when asked in a mock courtroom environment (Hill & Hill, 1986; Saywitz & Nathanson, 1993). Testimony in an actual case is likely to be more disruptive, in part because of the presence of the defendant, which child witnesses cite as their greatest fear (Goodman et al., 1992). In an examination of children’s responses to oath-taking competency questions in court, children often did poorly in response to questions that posed fewer difficulties for children tested in the lab (Evans & Lyon, 2012).

## The Current Study

This study examined the use of DYK/R questions in sexual abuse trials in which child witnesses testified. We first looked for evidence of pragmatic failure by determining whether children often gave unelaborated “yes” responses to DYK/R questions that implicitly asked wh- questions (e.g., “Do you remember where it happened?”). We examined how attorneys responded to such answers to ascertain whether the questions were indeed intended to ask both a literal and an implied question. We predicted that children would frequently exhibit pragmatic failure but that this tendency would diminish with age (cf. Evans et al., 2014; Walker & Hunt, 1998).

We then turned to DYK/R questions that implicitly asked yes/no questions. With respect to DYK/R if/whether questions (e.g., “Do you remember if it was dark?”), we examined the extent to which children gave unelaborated “yes” and “no” responses. With respect to DYK/R gerund questions (e.g., “Do you remember going to the house?”), we examined how often children simply said “No.” We then determined whether attorneys sought to disambiguate children’s responses (e.g., by asking, “You don’t remember, or it wasn’t dark?”). By looking at cases in which children’s responses were disambiguated, we determined whether referential ambiguity concerns were warranted. That is, were children’s unelaborated responses sometimes responding to the literal question and sometimes answering the implicit question? We predicted that children would frequently provide referentially ambiguous responses, and that this tendency would diminish with age. We anticipated that attorneys would frequently fail to clarify whether children were answering the explicit or the literal question. We made no predictions about whether prosecutors or defense attorneys would behave differently, but we included attorney type as a factor to assess whether the use of DYK/R questions might reflect attorney strategy.

## Method

### Participants

Pursuant to the California Public Records Act (Cal. Government Code 6250, 2016), we obtained information on all felony sexual abuse charges under Section 288 of the California Penal code (sexual abuse of a child under 14 years of age) filed in Los Angeles County from January 2, 1997 to November 20, 2001 ( $N = 3,622$ ). Of all the cases filed in this time period, 9% went to trial ( $n = 309$ ). We were able to obtain trial transcripts for 235 of the 309 cases, which included virtually all of the acquittals and mistrials (95% or 53/56) and 71% (182/253) of the convictions. We limited our examination to child witnesses from 4 to 9 years of age, given the evidence for decreased pragmatic failure and better understanding of referential ambiguity during the preschool and early school years. The final sample included 80 cases in which 13 (16%) resulted in an acquittal, 65 (81%) resulted in a conviction and 2 (3%) resulted in a mistrial. There were 104 children between 4 and 9 years of age ( $M = 7.53$ ,  $SD = 1.35$ , 79 females, 1 unknown) and a total of 158 transcripts of which 6 (4%) transcripts were from a competency hearing, 61 (38%) transcripts were from a preliminary hearing, and 91 (57%) transcripts were from trial. The defendant was a stranger 8.5% ( $n = 9$ ) of the time, a biolog-

ical parent 11% ( $n = 12$ ) of the time, a stepparent 11% ( $n = 12$ ) of the time, or someone the child knew (e.g., relative, neighbor or child care provider) 65% ( $n = 69$ ) of the time. The child witness was not an alleged victim in 3% ( $n = 3$ ) of the cases and the relationship was unknown in one case.

### Coding

We identified all questions prefaced with “Do you know” or “Do you remember.” We excluded questions that were poorly formed (so that the question was unclear) or were compound (so that one could not determine which question the child was answering). We then identified DYK/R wh- questions that we predicted could lead to pragmatic failure (DYK/R who, what, where, why, how, or which questions; hereinafter eligible DYK/R wh- questions) and questions that could lead to referential ambiguity by implicitly asking a yes/no question (DYK/R if/whether questions and DYK/R gerund questions [such as telling, going, and staying]). We excluded other DYK/R questions, including DYK/R temporal questions (Richardson, 1993), and DYK/R definition questions (Evans & Lyon, 2012), as explained in the introduction. We also coded for whether the prosecutor, the defense attorney, or the judge asked the question.

With respect to eligible DYK/R wh- questions, we coded whether children provided an unelaborated “yes” response or gave an appropriate response. When children provided unelaborated “yes” responses, we coded whether the next question sought an answer to the wh- question, signaling that pragmatic failure had indeed occurred. In turn, we coded for whether the child successfully answered the follow-up question.

With respect to DYK/R if/whether and DYK/R gerund questions, we coded for whether children provided referentially ambiguous answers. For DYK/R if/whether questions, this included unelaborated “yes” and unelaborated “no” responses. For DYK/R gerund questions, this included unelaborated “no” responses. When children provided referentially ambiguous responses, we coded for whether the next question sought to resolve the ambiguity. In turn, we coded for whether the child successfully resolved the ambiguity.

### Reliability

Interrater reliability was calculated for each of the variables (well-formed/compound, know/remember question type, child’s response, attorneys’ follow-up question, children’s subsequent response). Kappa values were above .76 with the exception of well-formed/compound questions, which had a Kappa value of .50 but a percent agreement of 99%.

## Results

There were a total of 3,676 questions prefaced with “Do you know” or “Do you remember.” Eleven percent ( $n = 406$ ) were excluded because they were compound or poorly formed. Of the remaining 3,267 questions, 34% were DYK/R wh- questions ( $n = 1,126$ ) that could lead to pragmatic failure, and 29% ( $n = 1,051$ ) were DYK/R if/whether ( $n = 305$ ) or DYK/R gerund ( $n = 746$ ) questions that could lead to referential ambiguity.

Children were asked an average of approximately 21 eligible DYK/R questions ( $M = 20.93$ ); all 104 child witnesses were asked

at least one such question. The prosecution and defense asked a relatively equal number of DYK/R questions (prosecutor 47%, defense attorney 50%, judge 3%). Preliminary analyses revealed that attorney (prosecutor vs. defense attorney) was not a significant factor in the analyses and thus all subsequent analyses were collapsed across questioner.

### Pragmatic Failure: Unelaborated “Yes” Responses to DYK/R Questions That Implicitly Asked a Wh- Question

The pattern of children’s responses and attorneys’ follow-ups is depicted in Figure 1. Children gave unelaborated “yes” responses to 26% ( $n = 291$ ) of the DYK/R wh- questions. To assess whether children’s age was related to unelaborated “yes” responding, a Generalized Estimating Equation (GEE) was performed on children’s responses to the DYK/R wh- questions ( $n = 1,126$ ). A binary logistic GEE model was utilized with children’s response (0 = appropriate response, 1 = unelaborated “yes”) as the dependent variable and age in years as the predictor. Furthermore, child witness was identified as the repeated factor in the model. The main effect of age was found to be significant, Wald  $\chi^2(1) = 6.14$ ,  $p = .013$ , indicating that as age increased children were significantly less likely to simply answer “yes,”  $B = -.08$   $SE = .03$ . Whereas 4- to 5-year-olds gave unelaborated “yes” responses 40% of the time, 6- to 7-year-olds did so 30% of the time, and 8- to 9-year-olds 24%.

Next we examined how frequently attorneys followed up unelaborated “yes” responses by immediately seeking an answer to the implicit wh- question. Attorneys attempted to do so 71% of the time ( $n = 207$ ); they either explicitly asked the implicit question ( $n = 163$ ), repeated the entire question ( $n = 41$ ), or took another approach, such as asking the child to expand on their response (e.g., “Tell me more about that”) ( $n = 3$ ). Children were responsive to the follow-up questions 98% of the time. When attorneys did not seek an answer to the implicit wh- question, they most often asked a follow-up question building on the child’s claim of knowledge (61%,  $n = 51$ ; e.g., “Q: Do you know what alcohol smells like? A: Yes. Q: Besides smelling cigarettes, did you also smell alcohol?”). Less often, they simply asked a different question (24%,  $n = 20$ ) or asked another DYK/R question on the same topic (15%,  $n = 13$ ). Because children provided unelaborated “yes” responses to 26% of the questions, and attorneys followed up with a request for the additional information 71% of the time, thereby signaling that they intended the implicit question, one can estimate that 18% of the DYK/R wh- questions resulted in pragmatic failure.

Because younger children’s greater tendency to provide unelaborated responses might be due to general reticence, rather than failure to recognize the implicit question, we identified DYK/R noun questions (e.g., “Do you remember Tom?”;  $n = 302$ ), which do not contain an implicit question, and coded for whether children provided an elaborated response (e.g., “Q: Do you remember your Mom’s friend? A: We call her ‘Nana’”). A GEE was performed with children’s response (0 = no elaboration, 1 = elaboration) as the dependent variable and age in years as the predictor. Additionally, child witness was identified as the repeated factor in the model. The model was not significant, Wald’s  $\chi^2(1) = .58$ ,  $p = .446$ ,  $B = -.07$ , indicating that as age increased children were not

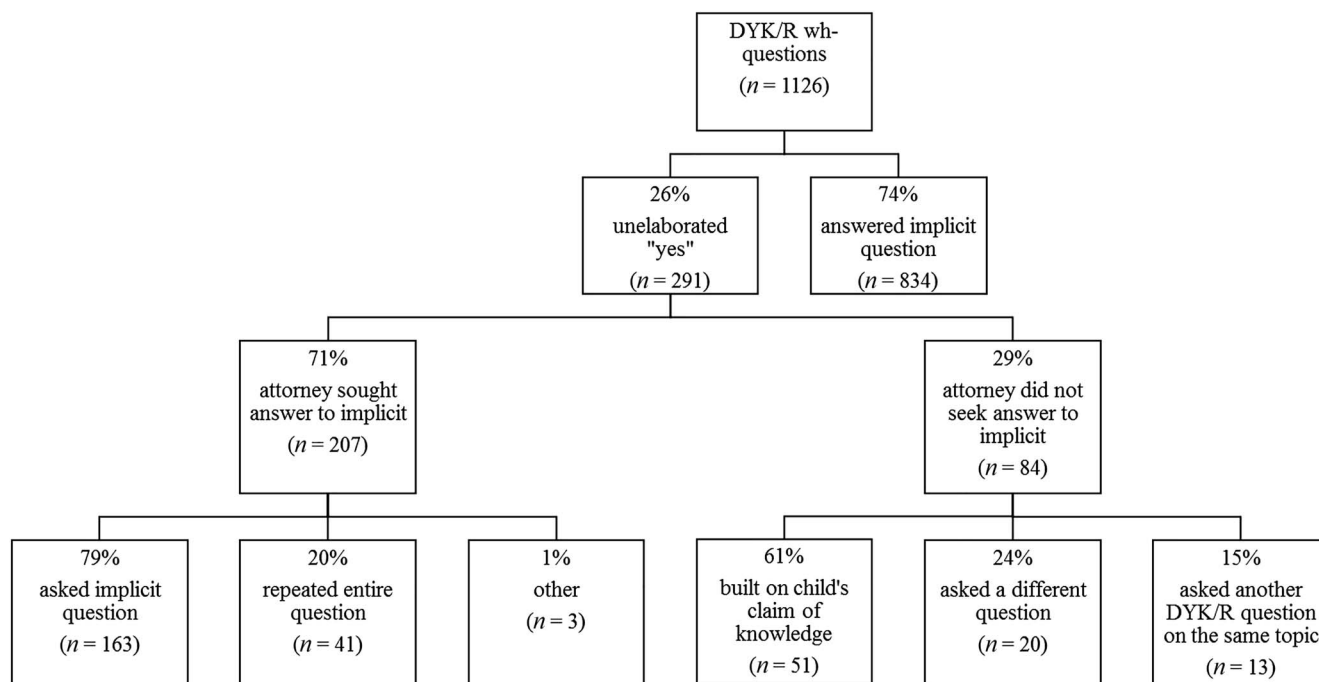


Figure 1. Pattern of responses to “Do you know” and “Do you remember” questions (DYK/R) WH- (who, what, where, why, how, and which) questions and attorneys’ follow-up.

significantly more likely to provide elaborated responses. Hence, older children’s greater likelihood of elaborating in response to DYK/R questions suggests a greater appreciation of the pragmatics of DYK/R questions, rather than a general tendency to elaborate.

### Referential Ambiguity: Unelaborated “Yes” or “No” Responses to DYK/R If/Whether Questions and Unelaborated “No” Responses to DYK/R Gerund Questions

The pattern of children’s responses and attorneys’ follow-ups is depicted in Figure 2. Children gave unelaborated “yes” or “no” responses to 48% ( $n = 147$ ) of the DYK/R if/whether questions, and unelaborated “no” responses to 26% ( $n = 198$ ) of the DYK/R gerund questions (e.g., telling, going, saying). To assess whether children’s age was related to referential ambiguity, a generalized estimating equation (GEE) was performed on children’s responses to if/whether and gerund questions ( $n = 305$  if/whether questions + 746 gerund questions). Children’s response (0 = not referentially ambiguous, 1 = referentially ambiguous) was used as the dependent variable with age in years as the predictor. Child witness was identified as the repeated factor in the model. Age was not found to be a significant predictor of children’s referentially ambiguous responses, Wald  $\chi^2(1) = 1.77, p = .184$ .

We then examined how often questioners attempted to clarify children’s referentially ambiguous responses. With respect to ambiguous answers to if/whether questions ( $n = 147$ ), attorneys attempted to clarify the child’s response 28% of the time (by explicitly asking the implicit question,  $n = 26$ ; by asking the explicit question,  $n = 7$ ; by asking the child to choose between the implicit or explicit question,  $n = 6$ ; or by repeating the whole

question,  $n = 2$ ). However, 72% of the time attorneys did not attempt to clarify the child’s response (by moving on to another topic,  $n = 45$ ; asking another DYK/R question on the same topic,  $n = 24$ ; following up assuming the child answered the explicit question,  $n = 20$ ; asking another question on the same topic,  $n = 13$ ; or following up assuming the child answered the implicit question,  $n = 4$ ). When asked a clarifying question, children were able to disambiguate their response 84% of the time ( $n = 34$ ). Hence, clarification occurred in 23% of the cases (84% of 28%).

With respect to ambiguous answers to gerund questions ( $n = 198$ ), attorneys sought clarification only 17% of the time (by explicitly asking the implicit question,  $n = 5$ ; asking the explicit question,  $n = 28$ ; or repeating the whole question,  $n = 1$ ). Eighty-three percent of the time attorneys failed to attempt to clarify the child’s response (by simply moving on to another question,  $n = 77$ ; asking a DYK/R question on the same topic,  $n = 53$ ; asking another question on the same topic,  $n = 24$ ; or asking a follow-up yes/no question that assumed the child’s knowledge,  $n = 10$ ). Children were able to disambiguate their response 100% of the time ( $n = 34$ ). Hence, clarification occurred in 17% of the cases (100% of 17%).

Based on the follow up questions and answers, we can calculate the likelihood of unresolved referential ambiguity: this occurred in 37% of the cases in which DYK/R if-whether questions were asked (clarification failed in 77% of the 48% unelaborated “yes” or “no” responses), and 22% of the cases in which DYK/R gerund questions were asked (clarification failed in 83% of the 26% unelaborated “no” responses).

Children’s clarifying responses across the if/whether and gerund questions ( $n = 68$ ) provided a clue as to whether children were originally responding to the literal or the implicit question. Chil-

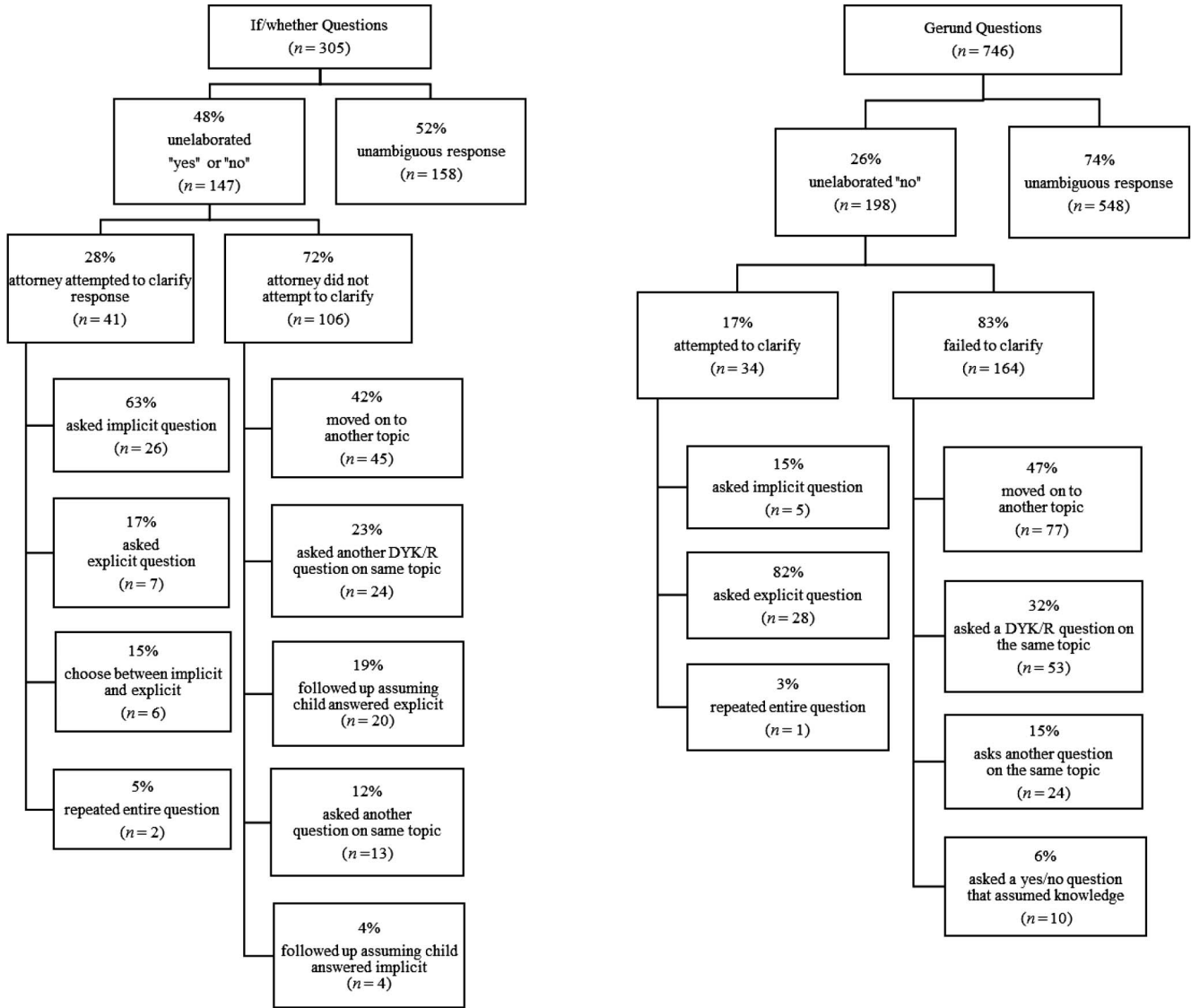


Figure 2. Pattern of responses to “Do you know” and “Do you remember” questions (DYK/R) If/whether (left) and Gerund (right) questions and attorneys’ follow-ups.

dren clarified their responses by answering the explicit question 45% of the time ( $n = 31$ ), that is, by referring to whether they knew or remembered, and the implicit question 55% of the time ( $n = 37$ ). Hence, at least among the answers attorneys sought to clarify, children were about equally likely to respond to the literal question or the implicit question when asked if/whether or gerund questions.

**Discussion**

This study assessed the frequency with which child witnesses’ responses to DYK/R questions exhibited pragmatic failure or referential ambiguity. Pragmatic failure occurs when children provide literal responses to questions that implicitly ask for additional information, also known as indirect speech acts. We found that in 18% of the cases in which attorneys asked DYK/R questions

containing an implicit wh- question, there was clear evidence that pragmatic failure occurred; children responded with an unelaborated “yes,” and attorneys followed up by asking the implicit question. The results are comparable to percentages of unelaborated “yes” responding to indirect speech acts in prior research (Evans, Stolzenberg, Lee, & Lyon, 2014 [14–18%]; Walker & Hunt, 1998 [28%]).

Once it is established that children sometimes respond to indirect speech acts literally, a second problem emerges. When attorneys ask DYK/R questions that are implicit yes/no questions, children’s unelaborated responses may be referentially ambiguous. If the question is a DYK/R if/whether question, such as “Do you remember if it was dark?”, an unelaborated “yes” could mean “Yes, I remember” or “Yes, it was dark.” An unelaborated “no” could mean “No, I don’t remember” or “No, it wasn’t dark.” If the

question is a DYK/R gerund question, such as “Do you remember going to the house?”, an unelaborated “no” could mean “No, I don’t remember” or “No, I didn’t go to the house.” We found that children provided referentially ambiguous responses to about half of the DYK/R if/whether questions and about a fourth of the DYK/R gerund questions. Attorneys usually failed to disambiguate children’s responses. As a result, 22–37% of the DYK/R yes/no questions led to unresolved referential ambiguity. When attorneys did seek clarification, children revealed that they had been answering the literal question about half the time and the implicit question about half the time. Hence, there is substantial opportunity for misunderstanding children’s responses because of the use of DYK/R questions.

Consistent with our prediction, children were less likely to exhibit pragmatic failure as they grew older, and more likely to answer the implicit question, suggesting that development plays a part in children’s interpretation of indirect speech acts. However, children exhibited no age improvement in the likelihood that their answers to DYK/R yes/no questions were referentially ambiguous. Hence, there is no evidence that within this age range (up to 9 years of age), children were aware of the ambiguity of their responses. Indeed, one wonders whether the adult attorneys were aware of the ambiguity, given their failure to attempt disambiguation in most cases. Thus, future research can explore the emergence of understanding, and examine how performance may change throughout adolescence and into adulthood.

Although attorneys usually followed up children’s unelaborated “yes” responses to DYK/R questions with the implicit questions, they failed to do so about a fourth of the time, suggesting that they may not have intended the DYK/R question as an indirect speech act. One possibility is that they asked the implicit question later in the examination. Our analyses do not speak to this possibility, but it seems unlikely because the logical time to make the implicit question explicit is immediately following the child’s acknowledgment of knowledge. Rather, it seems more likely that attorneys were sometimes asking these questions as introductions to the topic, similar to a tendency we noted in the introduction with respect to DYK/R temporal questions and DYK/R definition questions. In such cases, they would be satisfied with an unelaborated “yes” response, and the child’s answer would not reflect pragmatic failure.

Ironically, to the extent that attorneys sometimes asked DYK/R questions as indirect speech acts and sometimes as topic introductions, this may have increased the likelihood of referential ambiguity. In any case in which a DYK/R question was asked, it was difficult to determine precisely what the attorneys were getting at; did they only want the child to answer the literal question, or were they getting at more? We had the benefit of considering the attorneys’ follow-up questions, but of course the children did not know what the next questions would be. If the attorneys sometimes expected literal answers and sometimes expected answers to the implicit question, then children had little guidance regarding how they should interpret DYK/R questions. Even if children recognized the implicit question, they might have answered literally. In turn, this increased the risk that attorneys would misinterpret a literal response to a DYK/R yes/no question as a response to the implicit yes/no question.

## Limitations and Future Directions

One of the virtues of our study—the fact that we examined the actual performance of child witnesses testifying in court—is also a limitation. It was difficult to determine precisely what the attorneys intended by their questions, how the children interpreted those questions, and how the attorneys (and other adult observers) interpreted children’s answers. Although we had strong clues with respect to pragmatic failure, both because children’s answers could easily be classified as responding to the literal or the implicit question and attorney’s responses helped to clarify whether they indeed wanted the implicit question answered, the referentially ambiguous answers were typically not disambiguated.

Future work can help determine whether children’s referentially ambiguous answers exhibit any predictable pattern, and whether adults listening to children’s ambiguous answers exhibit any predictable interpretive approach. For example, if an adult asks, “Do you remember if it happened in the house?” and the child simply responds “yes,” is the child equally likely to provide a “yes” or “no” response if the implicit question is made explicit? It seems odd for a child to respond “yes” if the answer is “Yes, I remember, and no, it didn’t happen in the house,” but perhaps likely if pragmatic failure is attributable to limited processing ability, in which case the child does not have in mind the answer to the implicit question when answering the literal question. Moreover, if a child simply responds “no,” is an adult listener equally likely to interpret the answer as responding to the implicit as the literal question? Under what conditions do adults recognize the referential ambiguity in the child’s response? We suspect that adult interpretation may vary depending on their preconceptions; if they believe the child’s memory is lacking, then they will interpret a “no” response as “No, I don’t remember,” but if they expect the answer to the implicit question to be “no,” then they interpret the child’s answer as such. We also suspect that adults’ recognition of referential ambiguity may depend on the extent to which the child exhibits pragmatic failure shortly before DYK/R questions are asked, which may sensitize adults to the possibility that the child answers DYK/R questions literally.

This study suggests a number of promising new directions for future work on the difficulties children encounter in investigative interviews and in court. The pragmatics of child interviewing has received little attention. Critiques of questioning children in court have predominantly criticized the semantic and syntactic complexity of questioning (Brennan, 1995; Davies & Seymour, 1998; Kranat & Westcott, 1994; Zajac, Gross, & Hayne, 2003) or the attempts of defense attorneys to undermine child witnesses’ credibility by attacking their honesty or suggestibility (Brennan, 1994). Although defense attorney guides have suggested that attorneys deliberately make use of children’s limited understanding of pragmatic implications (e.g., by asking questions such as “Sometimes she would help you remember what happened, wouldn’t she?”) (Myers, 1987), whether this is a common technique in court, and how poorly children respond, is unknown.

Referential ambiguity in investigative and courtroom questioning has also been largely overlooked. An exception is Walker (1993, 1999), who has warned practitioners that the anaphoric use of pronouns and demonstratives (such as “that”) can be ambiguous. If an attorney uses a pronoun to refer to a previously mentioned person (e.g., “What did *he* say?”), the pronoun is referen-



tially ambiguous when it could refer to more than one person. A few studies have criticized this type of ambiguity in courtroom questioning (Zajac et al., 2003; Zajac & Cannan, 2009), also known as “backward referencing” (Brennan, 1995; Kranat & Westcott, 1994), but the research has predominantly focused on documenting the frequency of potentially ambiguous questions, rather than how well children answer such questions. Zajac and Cannan (2009) were the first to consider children’s responses, but grouped ambiguous questions with a diverse range of questions they termed “complex,” making it difficult to determine if these questions in particular caused children difficulty. Future work can take into account the linguistic developmental work on children’s understanding of anaphora (e.g., Wigglesworth, 1990), as well as expand the range of linguistic devices that are likely to lead to ambiguity (e.g., ellipsis; Lyon, 2013).

### Implications for Practice

For a number of reasons, interviewers have been encouraged to minimize the use of yes/no questions (Lamb et al., 2008). This study provides additional support for this advice. DYK/R questions elicit unelaborated “yes” and “no” responses that require follow-up questioning at best (when the child provides an unelaborated “yes” response to a DYK/R wh- question), and are misleading at worst (when the child provides an ambiguous response to a DYK/R yes/no question). Practitioners should attempt to reword their DYK/R questions as questions that cannot be answered “yes” or “no.” Rather than use DYK/R questions as topic introductions, attorneys could explicitly introduce topics (“Now I’m going to ask you questions about [topic]”), a method called signposting and recommended by practice guides (Plotnikoff & Woolfson, 2009).

In court, objections are available to ambiguous questions, but only if attorneys can recognize them as such. It is likely that practitioners need to be trained. The ambiguity of children’s answers to DYK/R appears not to be obvious, given the frequency with which both prosecutors and defense attorneys fail to ask clarifying questions. Although there is no objection for “referential ambiguity,” DYK/R yes/no questions could be characterized as “vague” or as “compound,” which are standard trial objections (Mueller & Kirkpatrick, 2009).

Training could also enable attorneys to identify inconsistencies in children’s testimony that might be due to referential ambiguity. For example, a child might answer “yes” to a DYK/R question, answering the literal question, but subsequently answer “no” to a yes/no question about the same topic (e.g., “Q: Do you remember if it was dark? A: Yes. Q: Was it dark? A: No.”). Attorneys who recognized the referential ambiguity of DYK/R yes/no questions could explain the apparent inconsistency.

Moreover, the rules of evidence in many states in the United States give the judge authority to disallow questions that are developmentally inappropriate (e.g., Cal. Evidence Code Section 765, 2016). Again, however, judges will need training and some encouragement to intervene on behalf of child witnesses. For example, Andrews, Lamb, and Lyon (2015) found that although repeated questions were quite common when children testified about sexual abuse, “asked and answered” objections were raised in only 23% of trials, and were usually overruled.

This study has demonstrated the potential pitfalls in asking DYK/R questions of children, given children’s limited understand-

ing of the pragmatics of questions and the referential ambiguity of answers. Future lab and observational work can profitably explore what is likely a much broader problem in child interviewing and testimony. Ultimately, we can improve the interviewing process, making it easier for children to communicate and minimize confusion and error.

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