

Linguistic and Socioemotional Influences on the Accuracy of Children's Reports

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A basic but largely neglected issue in research on the reliability of children's testimony is the impact of certain questioning tactics (e.g., use of legalese and socioemotional intimidation) on the accuracy of children's reports. In the present study, 5- to 7-year-old children were interviewed about a standardized play event with free-recall cues and detailed questions that were specific or misleading. Linguistic complexity of questions (complex or simple) and socioemotional context of interview (supportive or intimidating) were varied between subjects. Results indicated that children were significantly less accurate in reporting the event when questioned with complex, developmentally inappropriate questions rather than simple questions, yet children rarely voiced their comprehension failures. In addition, children interviewed by a warm, supportive interviewer were more resistant to misleading questions about the event than were children interviewed in an intimidating manner. Theoretical interpretations and implications for investigative interviewing and policy are discussed.

"Did you say that when they were playing this game called Bingo that you knew that somebody was going to hurt people and when that happened you hid? Do you remember that?" (Walker, 1993, p. 66). Could you, the reader, keep track of the multiple propositions in this question? If you had difficulty, imagine you are the 5-year-old child who was asked this question in an actual court of law.

Over the past decade, concerned professionals have built a research corpus designed to address the complicated questions raised by the involvement of children as witnesses in court cases (for reviews, see Ceci & Bruck, 1993; Dent & Flin, 1992; Goodman & Bottoms, 1993; Perry & Wrightsman, 1991). The importance of this research is underscored by the fact that courts have increasingly come to rely on research findings in child abuse cases (Goodman, Levine, Melton, & Ogden, 1991). Previous research has primarily focused on children's credibility, suggestibility, and, more generally, children's memory. A topic that has received

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less empirical attention is the effect of pragmatic, contextual features of courtroom questioning practices on the reliability of children's testimony (King & Yuille, 1987).

For example, attorneys are skilled at discrediting witnesses in the courtroom by using conversational strategies that intimidate them into silence, contradictions, or general emotional and cognitive disorganization (Drew, 1990; O'Barr, 1981, 1982; Walker, 1987). These conversational ploys take place in the realm of pragmatics (Green, 1990; Levinson, 1987; Ochs, 1979). Included in this array of intimidational techniques is the use of legalese—lexically and syntactically complicated language that developed to meet the special needs of the legal profession (Brennan & Brennan, 1989; Charrow & Charrow, 1979; Levi, 1990). In addition, questioner demeanor can contribute to witness intimidation (Drew, 1990; O'Barr, 1982). Specifically, the use of paralinguistic phenomena such as tone of voice, speech rate, and emphasis, and extralinguistic phenomena such as physical proximity and eye contact serve to either enhance or detract from social supportiveness and interpersonal warmth during questioning.

Because children may be particularly vulnerable to such calculated tactics, we undertook the present laboratory research. We did not focus on children's memory *per se*, but on their accuracy, suggestibility, and willingness to report information presumably accessible to memory, concerns that are as important as children's memory for an event (Goodman & Schwartz-Kenney, 1992). Specifically, we investigated the impact of linguistic complexity and socioemotional context of interviews on children's reports of a recently experienced real-life event. We hypothesized that enhancing children's communicative competence, by increasing their understanding of the questions asked and by providing social support, would strengthen their performance on an interview task. Below, we review literature bearing on our hypotheses about the effects of linguistic complexity and social support on children's testimonial competence.

Linguistic Complexity

As Walker's (1993, 1994) court transcript analyses illustrate, much questioning by attorneys is above the developmental level of children. Indeed, courtroom discourse is often quite stilted and difficult to understand (Mellinkoff, 1963), and may be above the level of most *adults* (Lakoff, 1989; Levi, 1990; O'Barr, 1982; Walker, 1993). Questioning by professionals who conduct pretrial investigative interviews (e.g., police officers, social workers) may also be above the developmental level of children, often inadvertently. Although after approximately five and a half years of age children have generally developed an impressive array of the language skills needed to participate in conversations with adults (Lund & Duchan, 1988), these skills are subject to development across the lifespan (Walker, 1994; Whitehurst, 1982). For example, comprehension of many adultlike language features is in place by about first grade (Byrnes & Duff, 1989; Hirst & Weil, 1982; Whitehurst, 1982). However, metalinguistic and metacognitive skills such as comprehension monitoring are thought to develop later in childhood (Markman, 1977, 1979).

Research on children's ability to respond to complex questioning about events is limited, but generally indicates that children may be particularly vulnerable to

linguistically complex questions. For example, Brennan and Brennan (1988) assessed children's accuracy in recapitulating complex legal questions. Not surprisingly, as questions increased in complexity and legal specificity, children became less capable of summarizing their propositional content.

Saywitz and Snyder (1993) reported findings from a preliminary study examining 6- and 8-year-olds' ability to recall information in response to questions of two levels of comprehension difficulty: complex, modeled after questions used in actual court cases; and simple, developmentally appropriate questions. Children performed more poorly on complex questions than on simple questions. Consistent with the Markman (1977, 1979) findings, even though the children probably did not understand the complex questions, they nevertheless tried to answer them.

Finally, in an experimental study expanding upon the work of Brennan and Brennan (1988), Perry et al. (1994) compared students from four age groups (kindergarten, fourth grade, ninth grade, and college) on a number of dimensions. As did Brennan and Brennan, Perry and colleagues compared the accuracy of question recapitulation between simple and complex questions and found that students had more difficulty summarizing and repeating the complex (what they term "lawyerese") questions. Students in all age groups answered more accurately when questioned in a simple manner.

In summary, the literature suggests that 5½- to 7½-year-old children have sufficient language skills to participate in most everyday language tasks, but are not so proficient in language use that they would understand everything about a complex language task. With these considerations in mind, 5½- to 7½-year-olds were selected as participants in the present study. This age group seemed particularly appropriate for inclusion for another reason: Children at this age are more likely to testify in trials than are younger children (Goodman et al., 1992). We assessed the accuracy of children's reports in response to an interview script written in the style of legalese versus a more simple, developmentally appropriate style. We predicted that the use of the simple questions would enhance the accuracy of children's reports for two possible reasons: (a) an obvious and specific cognitive effect due to children's increased comprehension of each individual question, and (b) a more generalized effect due to an enhanced sense of communicative competence arising from children's awareness that they are full participants in the interaction (Hymes, 1972). That is, an increase in communicative competence is likely to be empowering, with the result that children are apt to contribute more effort and attention to the task at hand. Conversely, children who are asked developmentally inappropriate (or complex) questions are likely to experience themselves as "disfranchised from the process of effective understanding" (Brennan & Brennan, 1988, p. 33) and be less motivated to participate in the task.

Social Support

The second type of task demand examined in the present study is socioemotional support. Specifically, we were interested in measuring the degree to which providing or withholding support influenced the accuracy of children's reports.

Social support has been defined in many ways by academics, and its effects have been of interest to researchers across disciplines including sociology, communications, and psychology. Social support may be conceptualized as a form of interaction or communication (verbal or nonverbal) that fosters a feeling of well-being in the target (Burlison, Albrecht, Goldsmith, & Sarason, 1994). Perceived social support generally leads to better physical and emotional health, and more fulfilling social relationships (e.g., Sarason, Sarason, & Pierce, 1990). Most pertinent to the present research, studies also reveal specific positive cognitive effects for both adults (Sarason & Sarason, 1986; Tardy, 1994) and children. For example, provision of social support has been found to increase grade-school students' academic performance (Harris & Rosenthal, 1985; Rosenthal & Jacobson, 1968) and to enhance the accuracy of their short-term recall (Kelley & Gorham, 1988).

There are several studies of social support in the eyewitness testimony literature. A supportive atmosphere did not significantly enhance the eyewitness accuracy of adult male participants in research conducted by Marquis, Marshall, and Oskamp (1972). In contrast, the work of Moston demonstrates that social support facilitates accuracy of children's free recall about past events (Moston, 1987, 1992; Moston & Engleberg, 1992). Specifically, building on the work of Labov (1969) on peer-provided support, Moston illustrated the value of peer social support in improving eyewitness interviews of children. Interestingly, Moston did not find specific effects of peer social support on suggestibility, an issue of prime importance in debates concerning the accuracy of children's testimony. However, Goodman, Bottoms, Schwartz-Kenney, and Rudy (1991) found that provision of social support increased children's resistance to suggestion in an interview context. Goodman et al. examined the effects of support on 3- to 7-year-old children's answers to both free recall and detailed questions about a routine inoculation. Social support in the form of a snack, smiles, and verbal encouragements given by the interviewer at the time of the interview reduced the number of incorrect responses freely recalled by child participants. In addition, for younger children (3- to 4-year-olds), the provision of social support led to reduced commission errors to misleading detailed questions. These results are in contrast to the conventional wisdom of some critics of child-friendly interview techniques who argue that practices such as verbally complimenting children in a forensic interview context may make them more willing to accept misleading suggestions (e.g., Underwager & Wakefield, 1990). However, the results are consistent with empirical work illustrating that both adults and children are more suggestible when interviewed by an intimidating, high status person (Loftus, 1979). Socioemotional support may serve to decrease intimidation, thus lessening suggestibility.

The extent to which the use of supportiveness/nonsupportiveness by an adult interlocutor affects a child's accuracy in reporting an event was further explored in the present experiment. Based on previous research, we expected support to increase children's accuracy. Specifically, by enhancing children's self-perceived competence and decreasing their anxiety, we theorize that social support might enable children to perform at their optimal level of cognitive ability. This would be consistent with current developmental theories that stress the importance of environmental support in cognitive development (Moston, 1992; Saywitz & Snyder, 1993;

Vygotsky, 1934/1978) in contrast to earlier age- or stage-bound developmental theories (Inhelder & Piaget, 1958). Further, we expected that the most pervasive effect of social support would be on children's accuracy in response to very suggestive, misleading questions: We reasoned that social support would decrease children's intimidation, and in turn, decrease their suggestibility.

DESIGN

Children participated in an engaging play session (involving puppets and games) with a research assistant (RA) in a laboratory setting. They were immediately interviewed about the event. Using a 2 x 2 between-subjects design, we examined the accuracy of children's reports as a function of (a) linguistic complexity of interview questions (simple vs. complex), and (b) socioemotional supportiveness of interviewer (supportive vs. intimidating). Operationalization of these variables is discussed in detail below.

Children were randomly assigned to conditions, with the exception that within each of the four conditions, participants were balanced according to mean age and, with one exception, gender. Three male interviewers performed approximately equal numbers of interviews within the conditions.

MATERIALS

Peabody Picture Vocabulary Test, Revised

The Peabody Picture Vocabulary Test, Revised (PPVT-R; Dunn & Dunn, 1981), a measure of individual differences in receptive vocabulary, has been shown to have good internal and test-retest reliability (Choong & McMahon, 1983; Dunn & Dunn, 1981). The PPVT-R correlates moderately with other measures of verbal intelligence such as the Wechsler Intelligence Scale for Children—Revised Vocabulary Subtest and the Wechsler Adult Intelligence Scale Vocabulary Subtest (Newmark, 1989).

Demographic Questionnaire

A brief parental demographic information questionnaire was used to gather information about the parents' socioeconomic status and education.

Interview

An interview about activities the child engaged in during the play session (described below) consisted of two free-recall questions (one at the beginning and one at the end of the interview), 24 "detailed" questions (focused questions designed to obtain more detailed information than typically elicited by open-ended free-recall

questions), and 4 "control" questions; described below (see Appendix for all questions). Except for 4 "open" questions that required a one- or two-word answer, all detailed and control questions prompted "yes/no" answers. Questions were balanced for equal numbers of "yes" and "no" correct answers in order to control for possible acquiescence or oppositional response sets. The interview was modeled after those used in previous child witness research (e.g., Goodman et al., 1991; Goodman, Rudy, Bottoms, & Aman, 1990; Rudy & Goodman, 1991; Saywitz, Goodman, Nicholas, & Moan, 1991).

There were two general dimensions on which the 24 detailed questions varied: abuse relevance and suggestiveness. Eight abuse-relevant questions were designed to be like questions that might be asked in sexual abuse investigations, the kind of legal case in which children often testify (e.g., *Idaho v. Wright*, 1989). The questions focused on touching behavior during the play session (the only touching that actually occurred was acted out by puppets), removal of clothing (no clothing was removed by either the RA or child), and picture taking (relevant in child pornography cases). These questions provided an important measure of the tendency of non-abused children to report abusive behavior that did not actually occur, currently of great concern in the legal arena. The remaining 16 "nonabuse" questions were concerned with eliciting general information about the play session (e.g., props and actions).

The detailed questions (nonabuse and abuse-relevant) also differed in level of suggestiveness. Eleven questions were designed to be misleading; the remaining 13 were specific questions (less leading, direct questions). Misleading and specific questions were operationally defined as they have been in previous child witness research (e.g., Goodman et al., 1991). That is, specific questions (e.g., "About how long ago was it when you played with the R.A.?" were not designed to be misleading or highly suggestive of a particular answer; nonetheless, they might be considered suggestive in a court of law. Misleading questions were purposely designed to be suggestive of an incorrect answer; for example, "Didn't you play video games in the room with the pirate?" suggests an affirmative answer when in reality, no video games were played; "What color was the robe you put on?" also suggests an incorrect answer because the child put on no robe. (See Appendix for all questions designated by question type.)

To operationalize the linguistic complexity manipulation, two versions of each free recall and detailed question were created: complex and simple. The two versions of each question were matched for propositional content. Walker's (1993; 1994) linguistic analysis of courtroom transcripts demonstrated three major areas of concern in questioning young children: age-inappropriate words and expressions, complex syntactic constructions, and general ambiguity. We created complex questions that embodied all three of these as well as other problematic attributes noted in direct- and cross-examinations of child testifiers during the first author's observational study of numerous actual court cases in Buffalo, New York, city courts. Specifically, the complex questions used rhetorical features typical of legalese: embedded clauses and multiple nested propositions, negatives, passive voice, subjunctives, archaic politeness formulas, unclear use of pronouns, advanced or specialized vocabulary (e.g., Latinate words, jargon), and excessive verbiage (M number of

words = 14.92). Simple questions were written in a more developmentally appropriate manner designed to be easily understood by 6-year-olds. Simple questions did not include the linguistic features mentioned above and were shorter in length than the complex questions (M number of words = 7.58). Level of linguistic complexity was verified by two experienced educational speech therapists, who rated the language of both the simple and complex interview protocols on ease of understanding. Specifically, on a difficulty scale ranging from 0 *not difficult* to 6 *extremely difficult*, the experts rated the complex questions as more difficult ($M = 5.44$) than the simple questions ($M = 2.94$). They judged the complex questions to be written above the developmental level of 5½- to 7½-year-olds and the simple questions to be developmentally appropriate.

Whereas the simple and complex questions varied between subjects, four control questions, written in the simple linguistic style, were exactly the same for all children across both simple and complex interviews (see Appendix). The control questions were included to determine whether any effect of linguistic complexity that might be observed was due to a general or more question-specific process. Control questions were dispersed throughout the interview.

The interview ended with a "Faces" scale, designed to ascertain how difficult the children themselves thought the questions were. The scale consisted of simple line drawings of gender-neutral human faces in 5 different expressions ranging from broad smile meaning "I understood all of the questions" (scored as 1), to full frown, meaning "I didn't understand any of the questions" (scored as 5).

METHOD

Participants

Sixty children participated: 31 males and 29 females. The children ranged in age from 5 years 4 months to 7 years 7 months ($M = 6$ years 4 months) and came from families of lower to middle socioeconomic level. Fifty-three were European American, 3 were African American, and 4 were Hispanic American.

Procedure

Each child was brought by one or both parents to a laboratory at the State University of New York at Buffalo for one experimental session. (Each child/family was tested separately.) Upon arrival, the family was met by a female RA, who fully informed parents of study procedures and rationale, outside the presence of the child. Parents were also given a copy of the interview questions with the option of crossing off any questions they deemed inappropriate. (All families agreed to participate, but four parents deleted questions.)

The female RA escorted each child to a playroom, where she administered the PPVT-R. A creel embroidered picture of a mouse with balloons was hung on the playroom door to help define the playroom as the "balloon room," an orienting

cue for the children's later interview. After the PPVT-R, the child participated in standardized, engaging activities with Playdoh, bubble soap, "Barbie" and "Ken" dolls, balloons, puppets (pirate, spider, ladybug, octopus, White and Black girl puppets [for females], White and Black boy puppets [for males]), another Polaroid camera, and a "Treasure Chest" filled with prizes. Each event occurred in the same manner and in the same temporal order for all children. The play event was designed to be relevant to children's concerns with their body and with issues of personal safety, a design feature noted as important by Goodman et al. (1991). These concerns were acted out vicariously through puppets (e.g., a spider bit another puppet on the "behind"). A Polaroid camera was used to take an instant picture of each child. (The photograph was given to the child after the interview.)

Immediately after the play session, each child was escorted to a separate room where an interviewer administered the interview to the child. Both the play and interview sessions were videotaped. For children in the supportive condition, the interviewer behaved with high levels of physical immediacy, defined by Mehrabian (1969) as communicative behaviors that "enhance closeness to and nonverbal interaction with another" (p. 203). Specifically, the interviewer (a) introduced himself at the beginning of the interview to establish rapport with the child and to signal that he was not assuming a power position in the dyad (Tannen, 1990); (b) employed intonational contours that convey warmth (DePaulo & Coleman, 1986; Labov & Fanshel, 1977; Siegman, 1987); (c) made considerable use of supportive eye contact⁴; (d) frequently smiled, the most central of the kinesic behaviors to the construct of perceived warmth (Andersen, 1985; Fridlund, Ekman, & Oster, 1987; Mehrabian, 1971; 1972); and (e) sat in a relaxed manner with an open body position, communicating openness and warmth (Andersen, 1985). Specifically, the interviewer arranged to be in Kendon's (1977) "F-formation," an interactive body stance that has been shown to be conducive to the development of intimacy in interpersonal communication (Patterson & Edinger, 1987).

In contrast, for children in the intimidating condition, interviewers displayed behaviors low in social support (Mehrabian, 1969; Kelley & Gorham, 1988). Specifically, they (a) did not attempt to establish rapport with the child, (b) used monotonal intonational contours that did not convey warmth, (c) made only minimal eye contact with the child, (d) smiled infrequently, and (e) sat with formal body posture.

Before the study was begun, each interviewer received training from an experienced therapist, who provided the interviewer with feedback about his style. To verify that the supportiveness construct was operationalized as intended, after the end of the study, three adult raters were each shown 12 taped interviews: one randomly selected interview for each interviewer in each of the four experimental cells. Two of the three raters correctly identified the supportiveness condition for each of the 12 tapes. The third rater correctly identified the supportiveness condition in 11 of the 12 tapes. Interrater agreement was thus 97%.

⁴Although a continuous gaze (stare) may be associated with perceived threat, it has been generally shown that "increased gaze and eye contact by an interviewer is associated with more positive attitudes" (Venzor, 1980, p. 9).

While a child was being interviewed, his or her parent(s) completed the demographic questionnaire. Following the interview, the child and parent(s) were debriefed, paid, and thanked for their participation, and the children were given toys to end the session.

RESULTS

Preliminary 2 (linguistic complexity: simple or complex) \times 2 (social supportiveness: supportive or intimidating) between-subjects analyses of variance (ANOVAs) were conducted on the measures of socioeconomic status, parents' education, and PPVT-R standard scores to assure that children in the experimental conditions were equivalent with regard to these characteristics. No significant differences emerged, and data were collapsed across these variables for all subsequent analyses.⁵

In addition, separate series of 2 (linguistic complexity) \times 2 (child gender) \times 3 (interviewer) and 2 (supportiveness) \times 2 (child gender) \times 3 (interviewer) analyses were performed on all dependent variables. Because there were no significant main effects or interactions attributable to either the identity of the interviewer or the child's gender, we collapsed across these variables in subsequent analyses.

Below we report the effects of linguistic complexity and social support on our main dependent measures. First, results of analyses performed on the children's first and second free-recall responses are presented. Then, children's accuracy in response to the 28 detailed questions and 4 control questions is considered.

Free Recall

Children's answers to the two free-recall questions were transcribed and coded for correct and incorrect units of information. For example, the statement "I played with Playdoh" was scored as 3 correct units of information: one unit for indicating that something was played with, one unit for indicating that Playdoh was the thing played with, and one unit for indicating that it was the child who did the playing (see Goodman et al., 1991). Redundant responses, incomprehensible utterances, and responses that could not be verified from the videotape of the play session were not scored. Two raters, naive to subject condition, independently scored a randomly selected 20% of all protocols. Interrater agreement was an acceptable 87%. Disagreements between raters were resolved by discussion, and the remaining protocols were scored by one rater.

The information children recalled about what they did was generally quite accurate, but there was some variation in the amount of information children reported. For example, while one child responded simply "Played balloons," another said "We blew bubbles, we, um, played with the Playdoh—played—and we played

⁵Even so, because of the particular importance of ruling out possible confounding effects of children's individual linguistic abilities, we also conducted analyses of all dependent variables in which we covaried for PPVT-R score. The pattern of results we present remained the same.

with the puppets, we blew up balloons, we, um—picked something out of the treasure box—it was stickers—and that's what I did in there. It was really fun—doing it—and I was so proud of myself for doing it!" To analyze responses as a function of experimental condition, separate 2 (linguistic complexity) \times 2 (social supportiveness) ANOVAs were performed on correct and incorrect units of information given in response to the first and second free-recall questions (see Table I). As hypothesized, analyses revealed that children in the complex condition gave significantly fewer correct units of information in response to both free-recall questions than did children in the simple condition, all F 's(1, 56) \geq 6.86, p 's $<$.01. However, there were no significant main effects or interactions involving social support for responses to either free-recall question, all F 's(1, 56) \leq 3.44.

Children made very few errors in response to free-recall questions, which is not surprising given the short delay between stimulus event and interview. Errors made were inconsequential and had more to do with the participants' inadequate locations in describing parts of the procedure than making serious errors of commission. For example, one child said "We, um, popped—did some balloons." Although the child appeared to be self-correcting (no balloons were popped), we scored this as an incorrect response in an effort to be conservative. Analyses revealed that the pattern of incorrect responses was not significantly influenced by support or complexity, $F(1, 56) \leq .87$.

Thus, our hypotheses regarding the effect of complexity were supported by the pattern of children's correct responses. But predictions regarding social support were not. Although effects of social support might not be expected on the first free-recall question because the interviewers had just begun to employ the support manipulation, it is somewhat surprising that support did not affect the pattern of responses to the second recall question, which came after children had been exposed to the entire support manipulation.

Table I. Mean Number of Correct and Incorrect Items Recalled as a Function of Complexity and Support

Response type	Linguistic complexity level					
	Simple			Complex		
	Supportive	Intimidating	<i>M</i>	Supportive	Intimidating	<i>M</i>
Correct						
Free recall 1 ^a	22.33	19.47	20.90	11.76	17.92	14.43
Free recall 2 ^a	18.80	17.73	18.27	10.35	12.54	11.30
Incorrect						
Free recall 1	.00	.13	.07	.06	.08	.07
Free recall 2 ^b	.00	.00	.00	.18	.00	.10

^aSignificant main effect of linguistic complexity, F 's(1, 56) \geq 6.86, p 's $<$.01.

^bToo few data per cell to conduct valid ANOVA.

Detailed Questions

Separate series of 2 (linguistic complexity) \times 2 (social supportiveness) multivariate analyses of variance (MANOVAs) were conducted on children's responses to the 28 detailed questions. Specifically, the first MANOVA series considered children's responses to the detailed questions as a function of abuse relevance; the second series considered responses with regard to the dimension of question suggestibility. Further, the proportion of correct answers, omission errors, commission errors, and "don't know" answers were analyzed separately because of mathematical nonindependence. To calculate the separate proportion scores for correct, omission, and commission responses, the total number of correct, omission, or commission responses was divided by the total correct plus total incorrect responses. The proportion of "don't know" responses was calculated by dividing the total "don't know" responses by the total correct, incorrect, plus "don't know" responses.

Analyses Considering Abuse Relevance of Interview Questions

Correct Answers. MANOVAs on the proportion of correct responses given to nonabuse and abuse-relevant questions revealed a significant overall main effect of complexity, multivariate $F(2, 55) = 30.65$, $p < .001$ (see Table II). Children interviewed with complex questions were less accurate than children interviewed with simple questions. Univariate analyses revealed that this pattern was significant for both abuse and nonabuse related questions, F 's(1, 56) \geq 14.79, p 's $<$.01.

The main effect of social support was also significant, multivariate $F(2, 55) = 4.69$, $p < .05$. Univariate analyses revealed that children were highly accurate in response to the abuse questions regardless of support (M 's for both conditions = .90). But when asked about less personally relevant, nonabuse-relevant details of the play event, they were less accurate when questioned in an intimidating manner, $M = .78$, than in a supportive manner, $M = .85$, univariate $F(1, 56) = 8.67$, $p < .01$. There was no significant interaction of complexity and support, multivariate $F(2, 55) = .66$.

Omission Errors. Analyses revealed that question complexity had a significant effect on children's proportion of omission errors, multivariate $F(2, 55) = 18.10$, $p < .01$, but only with regard to the nonabuse questions, univariate $F(1, 56) = 36.85$, $p < .01$ (see Table II). Children omitted less information when they were questioned in a comprehensible manner. Few omission errors were made in response to the abuse questions, but this is explained by the fact that children could not have made more than one omission error in regard to abuse questions—to have omitted the fact that one puppet bit another puppet's bottom.

There was no overall main effect of social support, multivariate $F(2, 55) = 2.00$ (abuse questions: supportive, $M = .02$, intimidating, $M = .01$; nonabuse questions: supportive, $M = .08$, intimidating, $M = .11$), nor a significant interaction of complexity and support, multivariate $F(2, 55) = 1.82$.

Commission Errors. Analysis of commission errors revealed significant overall main effects of both complexity and support, multivariate F 's(2, 55) \geq 6.12, p 's $<$

Table II. Mean Proportion of Correct, Incorrect, and "Don't Know" Responses as a Function of Complexity and Support: Abuse and Nonabuse-Relevant Questions

Response type	Linguistic complexity level					
	Simple			Complex		
	Supportive	Intimidating	M	Supportive	Intimidating	M
Correct ^{a,b}						
Nonabuse ^{a,b}	.96	.90	.93	.75	.63	.70
Abuse ^a	.97	.96	.96	.83	.84	.84
Omission ^a						
Nonabuse ^a	.02	.04	.03	.15	.20	.17
Abuse ^a	.00	.01	.00	.03	.01	.02
Commission ^{a,b}						
Nonabuse ^{a,b}	.02	.06	.04	.10	.17	.13
Abuse ^a	.03	.03	.03	.13	.15	.14
Don't know						
Nonabuse	.02	.03	.02	.08	.02	.05
Abuse	.00	.01	.01	.06	.03	.05

Note: See text for details regarding multivariate and univariate analyses of variance.

^aSignificant main effect of linguistic complexity.

^bSignificant main effect of social support.

.05 (see Table II). Children in the complex condition were more likely than those in the simple condition to say something had happened when it had not. This was true for both abuse and nonabuse questions, univariate $F(1, 56) \geq 13.20$, p 's < .01.

Univariate analyses also revealed that when children were interviewed in a supportive manner, $M = .06$, they made fewer commission errors in response to the nonabuse questions than when they were interviewed in an intimidating manner, $M = .11$, univariate $F(1, 56) = 6.12$, $p < .05$. They responded as accurately to abuse-relevant questions in the supportive as in the nonsupportive condition, M 's for both groups = .09. There was no significant interaction of support and complexity, $F(2, 55) = .20$.

"Don't Know" Answers. Children made very few "don't know" responses, and there were no significant main effects or interactions associated with complexity or support, multivariate $F(2, 55) \leq 1.79$ (see Table II).

Summary. In summary, our hypotheses received support from the pattern of children's responses to the detailed questions. Children interviewed with simple rather than complex questions were more likely to respond correctly to questions and less likely to respond with commission errors regardless of the abuse relevance of questions. They were also less likely to make omission errors in response to nonabuse questions. Children interviewed in a supportive manner were more accurate about nonabuse-relevant details than children interviewed in an intimidating context; however, support had no effect on accuracy in response to abuse questions. Even when questioned by an intimidating interviewer, children resisted being misled to say that abusive events had taken place during the play event.

Generally, it is important to note the children's overall high level of accuracy, particularly with regard to the abuse questions. The few commission errors made consisted of the children assenting with a simple "yes" or "no" rather than providing embellished fabrications. The two minor exceptions to this were two children in the complex, intimidating condition who responded "He did," to Question 18: "In thinking about the following question, the spider succeeded in biting you on your backside, did he not?"

Analyses Considering Suggestiveness of Interview Questions

Correct Answers. MANOVAs on the proportion of correct answers to specific and misleading questions revealed significant overall main effects of both complexity and social support, multivariate $F(2, 55) \geq 3.76$, p 's < .05 (see Table III). Univariate tests revealed that children exposed to complex questions were less accurate in response to both misleading and specific questions than were children interviewed with simple questions, $F(1, 56) \geq 24.21$, p 's < .001. Further, as hypothesized, social support increased resistance to misleading questions (supportive, $M = .87$; intimidating $M = .78$), univariate $F(1, 56) = 7.62$, $p < .01$, without influencing accuracy in response to specific questions (supportive, $M = .87$; intimidating $M = .85$), univariate $F(1, 56) = .99$. There was no significant interaction of support and complexity, $F(2, 55) = .25$.

Omission Errors. Analysis of proportion of omission errors similarly revealed significant overall main effects of complexity and social support, $F(2, 55) \geq 3.82$, $p < .05$ (see Table III). Univariate analyses indicated that the negative effect of

Table III. Mean Proportion of Correct, Incorrect, and "Don't Know" Responses as a Function of Complexity and Support: Specific and Misleading Questions

Response type	Linguistic complexity level					
	Simple			Complex		
	Supportive	Intimidating	M	Supportive	Intimidating	M
Correct ^{a,b}						
Specific ^a	.97	.96	.96	.78	.73	.76
Misleading ^{a,b}	.96	.87	.92	.79	.66	.74
Omission ^{a,b}						
Specific ^a	.01	.02	.01	.14	.14	.14
Misleading ^{a,b}	.02	.04	.03	.07	.14	.10
Commission ^a						
Specific ^a	.03	.03	.03	.09	.12	.10
Misleading ^a	.02	.08	.05	.14	.20	.17
Don't know						
Specific	.02	.02	.02	.07	.02	.05
Misleading	.01	.02	.02	.07	.03	.05

Note: See text for details regarding multivariate and univariate analyses of variance.

^aSignificant main effect of linguistic complexity.

^bSignificant main effect of social support.

complex question construction was pervasive across both misleading and specific questions, $F_s(1, 56) \geq 16.44$, $p_s < .001$. Support, however, affected only responses to misleading questions, univariate $F(1, 56) = 7.01$, $p = .01$. Again, children who received support, $M = .05$, were less suggestible than children who did not, $M = .09$. Children were as accurate in response to specific questions regardless of support, M 's for both conditions = .07; $F(1, 56) = .11$. There was no significant interaction, $F(2, 55) = .94$.

Commission Errors. Analysis of the proportion of commission errors revealed a significant overall effect of complexity, $F(2, 55) = 13.05$, $p < .001$ (see Table III). When questioned with simple compared to complex questions, children made fewer commission errors in response to specific questions and were more resistant to misleading questions, univariate $F_s(1, 56) \geq 12.56$, $p_s < .001$. There were no significant effects or interactions associated with support, $F_s(2, 55) \leq 1.69$ (misleading questions: supportive, $M = .09$, intimidating, $M = .14$; specific questions: supportive, $M = .06$, intimidating, $M = .07$).

"Don't Know" Answers. Analyses of proportion of "don't know" answers revealed no significant main effects or interactions associated with complexity or supportiveness (see Table III), all multivariate $F_s(2, 55) \leq 1.11$.

Summary. Again, our hypotheses concerning question complexity were supported by the pattern of correct, commission, and omission responses to both misleading and specific questions. Further, there was support for our predictions about the specificity of the effects of social support: When given social support, children were better able to resist suggestions, making more correct responses and fewer omission errors in response to misleading questions. Responses to specific questions, however, were unaffected by the support manipulation.

Control Questions

As described earlier, four control questions were intentionally written in the same simple language in both simple and complex interviews. A 2 (complexity) \times 2 (supportiveness) ANOVA conducted on the four control questions as a group revealed no differences between conditions. Thus, we found no support for a generalized effect of the linguistic complexity manipulation beyond the individual question level. If linguistic complexity had had a generalized effect (i.e., children being generally demoralized by the linguistic complexity of the questions and in turn less motivated to attend to the task), children in the complex condition might have performed poorly on these simply constructed control questions as well as on the complex questions, and thus, less accurately than the children in the simple condition. This was not the case, revealing support for a question-specific mechanism.

Faces Scale

Children's mean scores on the Faces Scale were analyzed with a 2 (complexity) \times 2 (supportiveness) ANOVA. There were no significant main effects or interactions, $F_s(1, 55) \leq 1.79$. Surprisingly given the pattern of results discussed above,

children in all conditions indicated that they understood the questions. Children in the linguistically complex condition indicated that they understood the questions, $M = 1.43$, as well as did those in the simple interview condition, $M = 1.31$. The ratings of children in the supportive condition, $M = 1.44$, did not significantly differ from those in the intimidating condition, $M = 1.30$.

Requests for Clarification

Finally, statements such as "I don't know what that means," or questions such as "What did you say?" or "What does that mean?" in response to any interview question were defined as requests for clarification. We had planned to analyze the number of such requests as a function of experimental condition; however, such statements occurred too infrequently to be analyzed statistically. Out of over 900 questions asked of the 30 participants in the complex condition, only 5 children indicated lack of understanding or requested clarification on 9 questions. No requests were made by children in the simple condition. As seen previously in Tables II and III, children also made few "don't know" responses to detailed questions. Children either failed to realize that they did not comprehend the questions (consistent with the above Faces Scale results), or children were reluctant to ask the interviewer for clarification or otherwise indicate their lack of comprehension of the questions because of social desirability considerations (which, arguably, might also have led to the Faces Scale results).

DISCUSSION

In the present study, we examined the impact of two important variables on the accuracy of children's reports: linguistic complexity of questions and the provision of social support. Both were found to affect children's accuracy. Below we discuss the theoretical importance and real-world implications of our findings.

Linguistic Complexity

The most pervasive finding of the study was the impact of linguistic complexity. As we predicted, when children were questioned in a linguistically complex manner (a manner often observed in actual courtrooms and in pretrial investigative interviews), the accuracy of their reports was diminished on both free recall and detailed questions, replicating the work of Saywitz and Snyder (1993) and Perry et al. (1994). This pattern held even when the interviewer engaged the child in a socially supportive manner, and was consistent regardless of the subject matter of the detailed questions (i.e., abuse vs. nonabuse) or the level of question suggestiveness. When the children could not understand what was being asked, neither the supportiveness of the interviewer nor the content or suggestiveness of the question had an impact on their performance.

A striking finding was that very few children spoke up about their lack of understanding of interview questions (requests for clarification were made for less than 1% of the questions). They were also loathe to admit their confusion to the interviewer following the conclusion of the interview when asked specifically about their comprehension. This is in keeping with findings from several other studies (Hughes & Grieve, 1980; Markman, 1977, 1979; Perry et al., 1994; Saywitz & Snyder, 1993). It is possible that children are not even aware that they do not understand complex questions (Markman, 1977; 1979). In support of this comprehension-monitoring interpretation, when asked how well they understood the questions, children in our complex and simple conditions both said they understood the questions. Given our results, children in the complex condition presumably overestimated their degree of understanding.

Alternatively, children may realize their failure to comprehend, but resist indicating this failure out of social desirability concerns. In the simplest form, they may want to avoid the overt embarrassment of appearing "dumb." Or they may realize that they don't understand a question, but believe that it is their own, not the questioner's, fault. In the Hughes and Grieve (1980) work, children consistently attempted to respond to questions when the questions were completely meaningless, even bizarre. The authors hypothesized that children (as do adults) behave according to a fundamental maxim of communication (Grice, 1975): that our discourse partners' statements/questions are relevant and meaningful. Children assume that adults speak coherently and with purpose; if they do not understand an adult's question, they may assume that *they*, not the adult, have erred. Children may attempt to fulfill conversational expectations by providing responses to even bizarre or unintelligible questions, not realizing that the questions themselves are flawed.

Research has indicated that training children to voice their confusion can have a beneficial impact on the accuracy of their reports (Saywitz & Snyder, 1993). This finding suggests that at least some children do realize when they don't understand; they just don't speak up about the failure to understand without special training. Even so, further research is needed before we can confidently explain children's failure to admit confusion, and in turn, design methods to improve their accuracy when they are faced with difficult question constructions.

Social Support

As predicted, when social support had an effect on children's accuracy, it was positive. Specifically, as in the Goodman et al. (1991) study, children who were interviewed in a warm, supportive environment were more likely to resist misleading suggestions than were those who were interviewed under intimidating circumstances. Social support did not lead to a marked increase in suggestibility as feared by some critics of socioemotionally supportive interviewing techniques.

What is the mechanism for this specific cognitive effect? Past research has illustrated that social support decreases anxiety and increases self-confidence in subjects facing a complex cognitive task (Sarason & Sarason, 1986), and that de-

creased intimidation leads to increased resistance to suggestion (Loftus, 1979). Thus, we believe that perceived social support led children in our study to feel less anxious, more empowered, and in turn, less intimidated and better able to resist misleading suggestions from the interviewer. Were this not the case, a more generalized effect would have been found across all question types, specific and misleading.

Supportiveness also facilitated accuracy on the nonabuse questions, but children were highly accurate on abuse-type questions regardless of support, probably because of the saliency of the content of those questions. That is, children likely processed the events represented in the abuse questions as central details rather than peripheral details of the stimulus event—even if what was central was the absence of an event (e.g., touching, kissing, or undressing). This was substantiated by noting that during the interview, many of the children made it clear nonverbally (by "making faces," or rolling their eyes, for example) that abuse-suggestive questions were startling. Thus, the content of many of the abuse questions was salient to all children, regardless of support factors, and was therefore less likely to be altered by postevent questioning than other, less salient information (Hall, Loftus, & Toubignant, 1984). Of course, just because children in our study were resistant to our abuse suggestions does not mean that such questions should be asked of actual child witnesses. Suggestive questions should be avoided at all costs in actual investigations.

We must caution that we did not predict the specific "interaction" of social support with abuse relevance of questions. Thus, our interpretations must be tentative. Our results will require replication before we can have full confidence in the findings or our interpretations. We also cannot comment on the effects of social support on accuracy under conditions that are sometimes encountered in actual abuse cases—for example, if social support was given to children over the course of multiple interviews or after long delays.

Finally, Moston and Engelberg (1992) point out the importance of viewing social support as a multidimensional phenomenon. Social support may be more important to some individuals than others, depending on their "stores" of social support. To illustrate, Sarason and Sarason (1986) found that social support reduced levels of cognitive interference during an anagram-solving task for adults with low social support resources. Social support did not facilitate the performance of participants already high in social support reserves. The authors hypothesized that this was attributable to an increase in the participants' self-confidence and a concomitant decrease in anxiety and worry. Had we been able to control for individual differences in social support, our effects might have been stronger. Future researchers would do well to examine this and other individual difference factors in the study of children's testimony.

IMPLICATIONS AND CONCLUSION

Maintaining the balance between children's and defendants' rights is, and should be, of major concern in the current debate over children's testimony. In

attempts to protect their clients, attorneys may employ strategies to diminish the credibility of child witnesses, including interrogating children with questions that are overly complex and that are presented in an adversarial and intimidating style. When adults use such stratagems in questioning children, the effect is twofold: They curtail the ability of the child to respond accurately and they diminish the perceived credibility of these young witnesses (Brennan & Brennan, 1990). Neither aids the cause of justice.

We acknowledge that although we designed our laboratory procedure to be as ecologically valid as possible while maintaining a high level of experimental control, our ability to generalize to actual courtroom situations or other pretrial interviewing situations is somewhat constrained because of the degree of artificiality inherent in our methods. Our child participants were not victims of crime as are many real child witnesses, they did not report information that was embarrassing or emotion-laden, nor did they believe they were in a courtroom or other forensic interview environment. Nevertheless, our findings are consistent with previous research investigating similar issues (e.g., Goodman et al., 1991; Perry et al., 1994; Saywitz & Snyder, 1993) and with observations from actual court proceedings (Walker, 1993). We suggest that, if anything, our findings may represent a conservative estimate of the effects of linguistic and socioemotional intimidation on child witnesses in actual court settings. For example, our experimental approximation of courtroom questioning techniques was dilute when compared with what typically happens in actual cross-examinations. Also, for obvious ethical reasons, the non-supportive interviewers in the present study merely withheld support; they did not behave in an actively hostile and intimidating manner, as may occur in an *in vivo* setting. Further, an actual courtroom setting would probably only intensify the effects we observed in our relatively innocuous setting, due to (a) the presence of other adults as observers, (b) the greater length of direct- and cross-examination, (c) the interference with cognitive processing due to heightened emotions inherent in an actual courtroom trial (Goodman et al., 1992).

What are the implications of this research for the interviewing of actual child witnesses? Goodman et al. (1991) have argued that "it is possible to optimize adult-child negotiation in reconstructing a child's past, resulting in a more accurate construction of reality" (p. 91). Because the present study demonstrated that some questioning strategies may impair a child's ability or willingness to accurately report an event, the results provide empirical evidence to support the efforts of child advocates in seeking to change certain procedural norms. Specifically, some practical implications of our research are obvious. When interviewing children, in the courtroom or during pretrial investigative interviews, questions should be pitched at a level children can understand. When it is not possible to ensure that children will be given developmentally appropriate questions, pretrial preparation for child witnesses is advised to teach them the importance of voicing their comprehension failures (Saywitz & Snyder, 1993), something that children in our study clearly failed to do. In addition, our results, along with those of Goodman et al. (1991), offer preliminary support for the recommendation that socioemotional support should be provided during interviews so that children can be aided in overcoming any intentional or unintentional suggestion on the part of adults. However, this

recommendation is limited in two important ways: First, with the advent of organized, interdisciplinary responses to child abuse allegations (like those arranged at children's advocacy centers, Reichard, 1993; Sorenson, 1993), the number of interviews children undergo has been cut drastically. Even so, alleged victims are sometimes exposed to more than one forensic interview. We do not know what the effects of social support would be over the course of multiple interviews. Second, our recommendation must be limited to the type of support we gave children in our study: warm socioemotional support in the form of eye contact, smiles, and general emotional approval, given without regard for the accuracy or inaccuracy of the children's responses. We obviously do not promote rewarding of children for accurate answers, because in the real world, actual accuracy is often unknown. Further, a socially supportive interview atmosphere must not be one that compromises the investigative integrity of an interview (Yuille, Hunter, Joffe, & Zaparniuk, 1993).

Institutional reforms are also indicated. Forensic interviewers should be required to receive some special training in child development so that they might be aware of children's special communication needs. In courtrooms, the presence of a "language advocate" as an in-court interpreter might be helpful to promote the accuracy of children's courtroom testimony. There would be no need for such a person, however, if limits could be placed on the intimidational tactics of adults who must question young children. For example, attorneys might be required to submit lists of possible questions to judges in advance of direct- and cross-examination, or attorneys may be given an expanded right to object to questions deemed to be inappropriate for linguistic or socioemotional reasons. Some jurisdictions have adopted such procedures. For example, in the wake of highly publicized daycare cases in Manhattan Beach, California, that state passed legislation allowing prosecutors to object to developmentally inappropriate defense questions (Waterman, Kelly, Oliveri, & McCord, 1993). Further, judges and attorneys might be required to receive training about basic issues in child development before handling cases involving child witnesses. An analogous suggestion was made by Perry and Wrightsman (1991) in considering the problems that arise when mentally disabled youngsters testify in court. Ideally, communication constraints and child-sensitizing education should be dealt with early in legal education. Consider the remarks of O'Barr (1981): "The successful incorporation of such courses into the curricula of law schools may depend heavily upon the degree to which social scientists are able through current and future research programs to demonstrate that current assumptions about communication held within the law and by the courts are unwarranted" (p. 405). We believe that research such as our own clearly demonstrates the failure of current legal assumptions regarding communication with children, indicating the need for specialized training for those who will work with child witnesses.

For egalitarian participation in the legal process to be a realizable goal for all (O'Barr, 1981), the special communication needs of child witnesses should be acknowledged and accommodated. Our research brings us nearer to understanding the special needs of children. It is our hope that future research and institutional change will bring our legal system closer to the goal of providing for those needs.

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APPENDIX: INTERVIEW QUESTIONS AS A FUNCTION OF LINGUISTIC COMPLEXITY

- I. Free recall:
- S: Tell me what you did in the balloon room with [RA name]. (Prompts: Did you do anything else in the balloon room? Did you do anything else?)
- C: Can you indicate to me whether you played in the balloon room with [RA name] and what you did while you were there with the aforementioned person? (Prompts: Did you engage in any other activities in the balloon room? Did you engage in any other activities?)
- II. Detailed questions:
- 1.^{a,b} (yes) S: [RA name] didn't keep her clothes on, did she?
C: [RA name], in fact, was not able to keep her garments on, was she?
- 2.^{a,c} (no) S: Did [RA name] take a picture of you with your shirt off?
C: Did [RA name] take a photograph of you with your shirt off?
- 3.^b (yes) S: [RA name] didn't break a Barbie doll, did she?
C: Nothing was done by [RA name] to cause damage to the Barbie doll, was there?
- 4.^c (yes) S: Did you play with bubbles?
C: Did you engage in any activities involving the blowing of bubbles on the occasion we were speaking of?
- 5.^c (no) S: Did you put the spider puppet on?
C: Is it your impression that you maneuvered the spider puppet?
- 6.^c (no) S: Did you color with crayons?
C: Would you say that it's true that crayons were used to color with?
- 7.^d (no) S: [RA name] gave you cookies and juice, didn't she?
C: [RA name] gave you cookies and juice, didn't she?

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- 8.^b (no) S: Didn't you play video games in the room with the pirate?
C: Wouldn't it be accurate to suggest that you played video games in the room with the pirate?
- 9.^c (yes) S: Did you play with puppets?
C: I want you to think very carefully and tell me whether or not you manipulated some puppets.
- 10.^b (yes) S: You didn't play with balloons, did you?
C: You are not under the impression that you played with balloons, are you?
- 11.^b (no) S: The pirate broke the Barbie doll, didn't he?
C: The Barbie doll was damaged by the pirate, isn't that true?
- 12.^c (short time) S: About how long ago was it when you played with [RA name]?
C: To your knowledge, and to the best of your ability, please indicate about how long ago it was that you played with [RA name].
- 13.^b (no) S: The pirate blew bubbles, didn't he?
C: The pirate engaged in blowing bubbles during the course of the puppet show, is that not true?
- 14.^d (yes) S: [RA name] didn't show you any pictures, did she?
C: [RA name] didn't show you any pictures, did she?
- 15.^b (there was no robe) S: What color was the robe you put on?
C: Can you give an approximate color of the robe that you were wearing on that occasion?
- 16.^{a,c} (yes) S: Did [RA name] take a picture of you?
C: Would you be so kind as to state whether or not [RA name] took a photograph of you?
- 17.^{a,c} (yes) S: Did the spider bite the girl [or boy] puppet on the bottom?
C: Are you aware of whether the spider bit the girl [or boy] puppet on the bottom?
- 18.^{a,b} (no) S: The spider bit you on your bottom, didn't he?
C: In thinking about the following question, the spider succeeded in biting you on your backside, did he not?
- 19.^{a,c} (no) S: Did [RA name] hug you?
C: Did [RA name] participate in hugging you at any point that you are aware of?
- 20.^c (no) S: Did you sing songs with the person?
C: On that same occasion, were any songs sung by you and [RA name]?
- 21.^d (yes) S: Did [RA name] touch a picture of a mouse?
C: Did [RA name] touch a picture of a mouse?
- 22.^{a,b} (yes) S: You didn't keep your pants on, did you?
C: You, in fact, did not keep your pants on throughout the entirety of the play session, did you?
- 23.^{a,b} (no) S: [RA name] kissed you, didn't she?
C: To the best of your knowledge, [RA name] in fact, kissed you, didn't she?
- 24.^c (*) S: What was your prize from the treasure chest?
C: Please try to recollect what, if anything, it was that you received as a prize from the treasure chest.
- 25.^c (yes) S: Did [RA name] touch a Barbie doll?
C: Would you say that [RA name] made physical contact with a Barbie doll?
- 26.^b (yes) S: You didn't play with Playdoh, did you?
C: On the aforementioned day, you did not engage in activities with Playdoh on that day, did you?

- 27.^c (*) S: Can you tell me one animal puppet that you put on?
C: Would you be so kind as to give us an idea as to one of the animal puppets you were wearing?
- 28.^d (no) S: Did [RA name] open a window in the balloon room?
C: Did [RA name] open a window in the balloon room?
- III. Final free recall:
- S: Once again, [child name], tell me what you did in the balloon room with [RA name]. [Prompts: Did you do anything else in the balloon room? Did you do anything else?]
- C: Once again, [child name], can you indicate to me whether you played in the balloon room with [RA name] and what you did while you were there with the aforementioned person? [Prompts: Did you engage in any other activities in the balloon room? Did you engage in any other activities?]

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Errata

The following note was inadvertently omitted from the Appendix of Carter, C. A., Bottoms, B. L., & Levine, M. (1996). Linguistic and socioemotional influences on the accuracy of children's reports, 20(3), 335-358:

Note. Correct answers are given in parentheses preceding each question. S = Simple question form. C = Complex question form.

* Children could have chosen from among several kinds of prizes (e.g., necklaces, jacks, stickers) and puppets (octopus, ladybug, spider); answers were scored based on each particular child's choice.

^a abuse-relevant question

^b misleading question

^c specific question

^d control question