

## Effects of Participation on Children's Reports: Implications for Children's Testimony

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Effects of participation on children's reports of a real-life event were examined. Same-age pairs of 4- and 7-year-olds entered a trailer occupied by an unfamiliar man. One child participated in a set of games with the man, and the other sat and watched. Ten to 12 days later, children were individually questioned about the event. Free recall and answers to specific questions were related to age but unrelated to participation. However, participation lowered susceptibility to suggestion. Age differences in overall suggestibility were not found, but older compared with younger children were less suggestible about actions that took place. Regardless of age, however, children evidenced few commission errors to false suggestions about actions relevant to child abuse allegations.

The increased involvement of children in the legal system has sparked professional and public debate about the accuracies and inaccuracies of children's testimony (e.g., Goodman, 1984; Melton, 1987; Raskin & Yuille, 1989; Yates & Terr, 1988). In large measure this debate revolves around a set of questions concerning children's suggestibility, including the following: Are children so suggestible that false information can easily be elicited from them? How is children's suggestibility affected by the type of information provided in leading questions? Do children who are directly involved in an event have stronger memories or greater resistance to suggestion than children who merely watch the event unfold?

This study addresses these questions. In particular, we were concerned with the effects of participation on children's suggestibility. As far as we know, no published study has directly examined children's suggestibility for an event in which they were actively involved compared with one they merely observed (but see Baker-Ward, Hess, & Flannagan, 1990; and MacWhinney, Keenan, & Reinke, 1982, for relevant research). Given that many children are interviewed by authorities (e.g., social workers, police, and psychologists) and testify in court about events in which they have actively participated (Goodman et al., 1988; Runyan, Everson, Hunter, & Coulter, 1988; Whitcomb, Shapiro, & Stellwagen, 1985), it is important to understand the effects of participation on children's reports.

Studies of the effects of participation on children's testimony,

similar to studies of the effects of participation on children's memory, generally, also have implications for the understanding of memory development (see Neisser, 1990; Ornstein, Larus, & Clubb, in press). Recent research indicates that even young children's memory of real-life events in which they participated is surprisingly well organized (e.g., Nelson, 1986), leading some authors to propose that participation strengthens memory (e.g., Jones, Swift, & Johnson, 1988; Slackman, Hudson, & Fivush, 1986). Indeed, involvement has been found to promote constructive memory processes, such as drawing inferences in children (Paris & Lindauer, 1976), to result in more complete recall (Baker-Ward et al., 1990; Paris & Lindauer, 1976; Slackman, 1985), and to aid spatial memory (Feldman & Acredolo, 1979). As Feldman and Acredolo (1979) pointed out, given Piaget's (1952) views that active involvement in events is crucial for cognitive development, the active-passive dimension assumes particular importance for developmental psychologists.

There are a variety of reasons to suspect that participation has beneficial effects on children's reports. For instance, memory may be strengthened when participation is accompanied by increases in attention and information processing (Olson, 1970; Paris & Lindauer, 1976); establishment of practical (e.g., motoric) and conceptual representations (Benson & Uzgiris, 1985); increases in self-reference and, hence, reliance on self-schemas (Baker-Ward et al., 1990; Pullyblank, Bisanz, Scott, & Champion, 1985; Rogers, Kuiper, & Kirker, 1977); higher arousal (Goodman, Hirschman, Hepps, & Rudy, 1991; Ochsner & Zaragoza, 1988; Warren-Leubecker, Bradley, & Hinton, 1988); and greater interest (Renninger & Wozniak, 1985). If participation strengthens children's memory and supports more advanced cognitive functioning, it may also lead to reduced suggestibility.

Participation might particularly facilitate younger children's reports compared with older children's reports if, for example, young children are more reliant on practical or self-referential representations to support cognition or, as passive viewers, are less likely to process an event actively. As Slackman et al. (1986) pointed out, several studies have indicated that beneficial effects of participation appear to be particularly pronounced for young children (e.g., Feldman & Acredolo, 1979). However,

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Foley and Johnson (1985; Foley, Johnson & Raye, 1983) reported that older children and adults have better recall of actions they perform than of actions they observe, but that younger children do not. These inconsistent findings may result from differences in the meaningfulness and familiarity of the activities used in these studies. Baker-Ward et al. (1990) found that performed actions were retained better than observed actions, even by young children, when the to-be-recalled events were familiar and meaningful, in which case children's knowledge structures could support memory.

However, it is possible that under some circumstances participation can actually have adverse effects on children's memory and testimony, regardless of age. If, for example, participation results in high arousal and that high arousal interferes with children's memory (Peters, 1987; but see Goodman, in press), then active involvement in an event might not be beneficial. Active involvement might also be detrimental to memory of information of low relevance to an activity if, for example, involvement results in a narrowing of attention to only relevant details (Neisser, 1979). In this study, we examined whether participation, as a function of age, has positive or negative effects on children's reports.

In addition to exploring the effects of participation on children's testimony, we were concerned with age differences in children's reports and particularly with age differences in suggestibility. Although age differences in children's free recall are typically found when the performance of young children is compared with that of older children and adults (e.g., Goodman & Reed, 1986; see Johnson & Foley, 1984, and Kail, 1989, for reviews), age differences are inconsistently found in children's suggestibility (see Loftus & Davies, 1984, and Zaragoza, 1987, for reviews). However, discussion of age differences in suggestibility has been complicated by reliance on multiple definitions and multiple research paradigms. Following Loftus's (1979) and McCloskey and Zaragoza's (1985) lead, several researchers have examined children's suggestibility in terms of memory impairment (e.g., Ceci, Ross, & Toglia, 1987; Zaragoza, 1987; Zaragoza & Wilson, 1989). In these studies, suggestibility is regarded as a distortion in memory stimulated by postevent misinformation. In this tradition, experiments typically involve exposing children to brief stories, pictures, or both followed by inaccurate information (e.g., a misleading narrative) presented before testing. Children's memory for the original information is later examined, typically in two-alternative forced-choice recognition tests. Results to date are contradictory: Some researchers have found that young children (3-year-olds) have more malleable memories than older children and adults (Ceci et al., 1987; but see Brainerd & Renya, 1988), but other researchers have been unable to document these effects (Zaragoza, 1987; Zaragoza & Wilson, 1989).

Results are also contradictory when suggestibility is studied in terms of children's reports as opposed to their memories per se (e.g., Clarke-Stewart, Thompson, & Lepore, 1989; Dale, Loftus, & Rathbun, 1978; Goodman & Aman, 1990; Goodman, Rudy, Bottoms, & Aman, 1990; King & Yuille, 1987; Manion, Romanczyk, & Leippe, 1989). In such studies, suggestive questions are presented at the time of the test rather than during a delay interval. Such studies have a long tradition (see Good-

man, 1984; Sporer, 1982) and, like their predecessors (e.g., Binet, 1900; Stern, 1910; Varendonck, 1911), examine such factors as how the form of a question or social influences affect children's testimony. In this tradition, memory is viewed as playing an important role in determining a child's testimony, but social, linguistic, emotional, task, and contextual factors are also emphasized (Whipple, 1909; see also Melton & Thompson, 1987; Saywitz, Goodman, Nicholas, & Moan, 1989). This study examines children's suggestibility within this framework.

Regardless of the definition of suggestibility or the research paradigm used, suggestibility appears to depend on factors such as memory strength (Goodman & Reed, 1986; Loftus, 1979), interviewer status (Ceci et al., 1987; Goodman, Bottoms, Schwartz-Kenney, & Rudy, 1991; but see Brigham, VanVerst, & Bothwell, 1986), and the type of information suggested (Goodman, Aman, & Hirschman, 1987; Loftus, 1979; Ochsner & Zaragoza, 1988).

Our final interest concerned children's suggestibility as a function of the type of information suggested. Specifically, we were interested in examining children's suggestibility for actions of potential relevance to allegations of child abuse. Considerable concern has been expressed in recent years about children's responses to leading questions that address acts of abuse (e.g., Raskin & Yuille, 1989), yet few studies pertaining to children's suggestibility about such actions as being hit, kissed, or undressed have been published in scientific journals. On the basis of Freudian theory, specifically on the idea that children experience sexual and even physical abuse fantasies (Freud, 1905/1963a, 1905/1963b), it might be predicted that children can be easily led to agree with false suggestions about actions associated with abuse. Alternatively, given that many such actions are culturally taboo (Goldman & Goldman, 1982) and relate to children's concerns for physical safety and freedom from embarrassment (e.g., Angelino, Dollins, & Mech, 1956; Jersild & Holmes, 1935; Lentz, 1985; Miller & Sperry, 1988; Yamamoto, Soliman, Parsons, & Davies, 1987), children might be especially resistant to such suggestions.

We examined these issues by having pairs of same-age, same-sex children experience a neutral event with an unfamiliar male confederate. Although both children within each pair participated in an initial set of activities, only one child (the *participant*) became actively involved in a special set of games while the other child (the *bystander*) sat and watched. The children's testimony was taken 10 to 12 days later. Tests of free recall and specific and misleading questioning were included. The specific and misleading questions concerned the person (i.e., the confederate), the actions, the room, and the timing of the event. A number of the questions also concerned acts that might be associated with child abuse.

It was predicted that the participant children would evidence better memory and greater resistance to suggestion than the bystander children, and age differences were expected to be stronger when the children served as bystanders than when they served as participants. Participants' memory and resistance to suggestion were also expected to be particularly strong for action and person information because involvement in the games should focus participants' attention and processing on these specific features of the event.

## Method

### Subjects

Thirty-six children, including eighteen 7-year-olds (8 girls and 10 boys) and eighteen 4-year-olds (10 girls and 8 boys), participated in the study. The children were solicited from subject files held by the Department of Psychology at the University of Denver. Half of the children of each gender in each age group were randomly assigned to the bystander condition, and the remaining children were randomly assigned to the participant condition. The families, all middle to upper-middle class, received \$4.00 for participating in the study. The data from one pair of 7-year-olds and two pairs of 4-year-olds were eliminated from the study because one member of each pair did not return for the interview.

### Materials

**Questionnaire.** A questionnaire was constructed for the memory and suggestibility tests, consisting of three recall questions: one each concerning the event, the confederate's physical appearance, and the games played. In addition, the questionnaire included 14 *person* questions (7 specific and 7 misleading) concerning the confederate's appearance, 28 *action* questions (15 specific, 12 misleading, and 1 correctly leading) about the actions that occurred, 9 *room* questions (6 specific and 3 misleading) about the inside of the trailer where the event took place, and 6 *time* questions (5 specific and 1 misleading) concerning the timing of the incident (see Appendix). To guard against children obtaining a high score simply because of response bias, the number of correct yes and no answers for both specific and leading questions was approximately equated.

In many legal circles, both our specific and misleading questions would be considered leading. The specific questions (e.g., "Did he kiss you?") were leading in the sense that they contained specific information. In contrast, the misleading questions contained an implicit presumption that an event occurred when it did not (e.g., "How many times did he spank you?") or tag words that implied that the information was true (e.g., "He took your clothes off, didn't he?"). The misleading questions were thus more leading than the specific questions.

All questions about the actions were asked in relation to both the child and his or her partner. For example, each child was asked, "Did he take your picture?" and "Did he take a picture of the other boy [girl]?" By asking these questions it was possible to assess the children's memory for what happened not only to them but also to the other child.

Each child was asked one correctly leading question. For the bystander, the question was "He didn't touch you, did he?" For the participant, it was "He didn't touch the other girl [boy], did he?" These questions were correctly leading because the confederate did not touch the bystander. When these same questions were asked in relation to the participant, who was touched by the confederate, they were misleading (e.g., asking the bystander, "He didn't touch the other girl [boy], did he?") The correctly leading question permitted us to maintain the continuity of asking action questions about each child.

Fourteen questions were of particular interest because of their relevance to child physical or sexual abuse cases. These questions specifically concerned actions that might be of special concern in child abuse investigations (e.g., "How many times did he spank you?" and "Did he put anything in your mouth?"). We refer to these as *abuse* questions. To ensure that the abuse questions were similar to those that would be asked in an actual child abuse investigation, eight professionals specializing in the study of child abuse rated the action questions. These professionals all held doctoral degrees in social work or psychology, had been active in child abuse work for an average of 11 years (ranging

from 7 to 20 years), and had interviewed an average of 59 alleged victims (ranging from 7 to 250 victims). The professionals rated the content of the questions on a scale ranging from *extremely likely to be asked in an abuse investigation* (1) to *extremely unlikely to be asked in an abuse investigation* (6). The abuse questions received a mean rating of 2.0 (ranging from 1.2 to 3.0), corresponding to *very likely*, whereas the other action questions received a mean rating of 4.5 (ranging from 3.4 to 5.2), corresponding to the midpoint between *somewhat unlikely* and *very unlikely*.

**Age-identification lineup.** In an attempt to improve children's testimony for the confederate's age, an *age-identification* lineup was constructed. It consisted of four magazine pictures of males, representing the following age periods: childhood, young adulthood, middle age, and old age. These pictures were shown to 15 adults who judged the ages of the males pictured. The average age estimate was 6 years old for the child's picture (ranging from 4 to 9 years old), 25 years old for the young adult (ranging from 21 to 27 years old), 42 years old for the middle-aged man (ranging from 39 to 47 years old), and 64 years old for the elderly man (ranging from 60 to 70 years old). The confederate's age was actually 25 years.

### Procedure

Families were scheduled in pairs. Parents were told that the study concerned children's memory and that their child would be asked to play a game with a man and another child. Parents were instructed not to discuss the event or the purpose of the study with their children until after the second visit.

When both families arrived at the university for the first session, a research assistant confirmed through parental and child report that the children were strangers to each other. The research assistant then escorted the children to a trailer parked in a vacant university lot.

Once the children entered the trailer, the confederate briefly interacted with the children with puppets and asked general questions about the children's schools, siblings, and pets, in an attempt to build rapport. The confederate also briefly put on a funny mask. Once the children seemed comfortable, the confederate announced that 1 child was going to play the games with him and that the other would need to watch carefully. The roles were randomly assigned before the children arrived, however, in an attempt to assure the children that the confederate was not favoring one over the other, he asked them to draw marbles from a box. The confederate then said to the child who had been assigned the bystander role, "OK, since you got the red [yellow] marble, you get to be the one who watches today. Your job is to sit very quietly in this chair and pay attention to what happens." Then the confederate told the other child that he or she would be the one to participate in the games.

The first game played was Simon Says, in which the confederate asked the participant child to, for example, touch his or her own knee and then the knee of the confederate. At the completion of the Simon Says game, the confederate told the participant to put on a clown costume over his or her own clothes. After the confederate helped the child put on the costume and lifted the child onto a desk, he asked the child to pose in two different positions, and each time took a picture with a Polaroid camera. The confederate and the participant then talked about what kinds of things clowns do to make children laugh, during which time the participant was asked to touch the confederate's nose and tickle him. One more game was played, thumb wrestling, which required the participant to hold the confederate's hand. The confederate then helped the child take off the costume. To assure that the experience was a positive one for both children, the confederate praised the bystander several times during the session and emphasized what an important job he or she was doing.

At the end of the session, the confederate gave both children a small toy. The original research assistant then reappeared to escort the children back to their parents. All events in the trailer were videotaped from behind a one-way mirror. The trailer visit lasted about 10 min.

The children returned individually 10 to 12 days later for a memory test, which was also videotaped. Before the questioning of the children began, parents were informed about the full purpose of the study, asked to review the questionnaire, and told that they should cross off any questions they did not want asked. None of the parents crossed off any of the questions. A parent was allowed to be in the room with the child during questioning, but was seated behind the child and instructed not to influence the child in any way.

At the beginning of the memory test, the child was told, "Remember a few days ago when you went into the trailer? I wasn't there, so I need you to tell me exactly what happened." The child was then asked to recall everything he or she could about what happened in the trailer (Recall Question 1), the appearance of the confederate (Recall Question 2), and the games that were played (Recall Question 3). Then the experimenter asked the specific and misleading questions. In the course of the questioning, approximately half of the children at each age, in each participation condition, and of each sex were presented with the age-identification lineup. The four pictures were laid out in ascending order of age in front of the child, and the interviewer related the depicted ages to that of people in the child's life (e.g., "This is a boy about your age"). The other half of the children were simply asked, "How old was the man in the trailer?"

During the second session, parents completed a questionnaire concerning whether they had talked to their children about the event and whether the child had spontaneously mentioned the event. None of the parents reported having discussed the event with their children. However, virtually all the parents reported that their children had spontaneously talked about the trailer visit at some point during the delay period.

## Results

Analyses examined the children's free recall of the event; answers to specific, misleading, and correctly leading questions; spontaneous recall prompted by our questioning; and identification of the confederate's age. Several additional analyses were conducted for the specific and misleading action questions. Because the participant and bystander children performed different actions, analyses were undertaken to control for the to-be-remembered stimuli. Also, our interests in child abuse led us to conduct separate analyses of the children's responses to the abuse-related action questions.

### Recall

Recall protocols were scored for correct, incorrect, and ambiguous information.<sup>1</sup> For example, the statement "He had brown hair" was scored as containing three units of correct information, that is, one for indicating the male confederate, one for indicating that he had hair, and one for indicating that his hair was brown. If the child had said "He had blond hair," the child would have received two units of correct information and one unit of incorrect information. The statement "I played stuff" was scored as two correct units of information and one ambiguous unit of information. One rater scored all of the protocols, and a second rater scored 22% of them. The proportion of agreement between the two raters was .89, indicating high

reliability. The analyses presented below are based on the first rater's judgments.

The main purpose of our first analysis was to determine if either participation or age influenced the children's recall. A multivariate analysis of variance (MANOVA) was conducted with age (4-year-olds vs. 7-year-olds) and condition (bystander vs. participant) as between-subjects variables and the number of correct units of information recalled by each child in response to the three recall questions as dependent measures (see Table 1). The age effect was significant,  $F(3, 30) = 3.51, p < .05$ . Older children recalled more correct information than younger children ( $M_s = 16.06$  and  $7.00$ , respectively). Univariate tests revealed that 7-year-olds recalled more correct information in response to the initial question ("I need you to tell me exactly what happened") than did 4-year-olds,  $F(1, 32) = 8.19, p < .01$ . Seven-year-olds also recalled significantly more correct information in response to the third recall question ("What kinds of games did you play?") than did 4-year-olds,  $F(1, 32) = 6.96, p < .025$ . However, significant age differences were not evident in response to the second recall question ("What did the person who was in the trailer look like?")  $F(1, 32) = 2.70$ . The multivariate effect of condition was not significant,  $F(3, 30) = 0.22$ , and there were no significant interactions.

The number of incorrect responses and the number of ambiguous responses made by each child were entered into separate MANOVAs. There were no significant main effects or interactions in any of these analyses. On average, the children provided less than one unit of incorrect or ambiguous information ( $M_s = 0.80$  and  $0.62$ , respectively). One 4-year-old boy, however, provided a series of inaccurate statements, confusing the trailer visit with a field trip his class had just taken to an anatomy museum.

Overall, the participant and bystander children did not significantly differ in the amount of correct, incorrect, or ambiguous information recalled. As expected, older children recalled more correct information than younger children. With the exception of 1 child, the children's recall was generally quite accurate.

### Specific Questions

In analyzing the children's responses to the specific questions, we were first interested in determining whether overall accuracy differed as a function of age and condition. A MANOVA was conducted with age and condition as between-subjects variables and each child's proportion of correct scores in response to the person, action, room, and time questions as dependent measures (see Table 2). Overall, older children answered a higher proportion of specific questions correctly than did younger children ( $M_s = 0.69$  and  $0.59$ , respectively) age effect,  $F(4, 29) = 10.00, p < .001$ . Univariate tests revealed that 7-year-olds answered more person and action questions correctly than did 4-year-olds,  $F(1, 32) = 26.99, p < .001$ , and

<sup>1</sup> Previous reports of the free and spontaneous recall data (see Goodman et al., 1990) were based on a scoring system that was modified for this article. As a result of the new scoring system, the pattern of the data remained virtually unchanged, but the means are generally higher.

Table 1  
*Mean Number of Correct Units of Information Recalled in Response to the Three Recall Questions*

Condition	First question		Second question		Third question	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Participants						
4-year-olds	16.00	18.09	3.11	4.43	6.22	6.80
7-year-olds	32.56	19.64	3.33	3.08	12.33	9.07
Bystanders						
4-year-olds	10.33	10.53	0.33	1.00	6.00	6.02
7-year-olds	30.00	24.85	3.67	3.46	15.56	12.35

$F(1, 32) = 6.90$ ,  $p < .025$ , respectively. In contrast, 4-year-olds answered room and time questions about as well as 7-year-olds. The multivariate main effect of participation was not significant,  $F(4, 29) = .96$ , and there were no significant interactions.

Although it was important to examine differences in children's responses to the specific questions overall, we were particularly interested in children's responses to the action questions. It will be recalled that, for questions concerning actions, each child was asked to respond in reference to himself or herself and also in reference to the other child. Questions concerning actions related to the participant were termed the *participant action* questions. For example, included in this category was the question to the participant, "Did he kiss you?" and the question to the bystander, "Did he kiss the other child?" Notice that both questions referred to what happened to the participant. Similarly *bystander action* questions included the same questions asked in relation to the bystander. By forming a *Participant-Bystander Actions* factor, our comparisons control for differences in the to-be-remembered stimuli. Analyses including this factor also permit investigation of whether participants were more likely than bystanders to remember participant actions and vice versa. It was not possible to include the Participant-Bystander Actions factor in the earlier analysis because, as a rule, the person, room, and time questions were not constructed in the required fashion.

Both the participants and the bystanders were expected to

remember the bystander actions well because the bystander mainly sat and watched. The participants' activities were more varied and complex. Nevertheless, if participation enhances memory, participants should evidence better memory for the actions, particularly their own, than should the bystanders.

To explore these possibilities, a series of 2 (age)  $\times$  2 (condition)  $\times$  2 (participant-bystander actions) analyses of variance (ANOVAs) were conducted, with participant-bystander actions as a within-subjects variable. When the proportion of correct answers produced by each child to these action questions was entered as the dependent measure, main effects of age,  $F(1, 32) = 8.83$ ,  $p < .01$ , and participant-bystander actions,  $F(1, 32) = 6.41$ ,  $p < .025$ , emerged. Seven-year-olds answered a greater proportion of the specific action questions correctly than did 4-year-olds ( $M$ s = 0.89 and 0.79, respectively). The main effect of participant-bystander actions reflected the relative ease of remembering the bystander's activity (participant actions,  $M = 0.81$ ; bystander actions,  $M = 0.88$ ). The main effect of condition was not significant, and there were no significant interactions. Thus, when correct responses to the specific questions were considered, participants did not evidence better memory than bystanders and were no more likely than bystanders to remember the participant activities.

It is also important to examine the types of errors made. Errors of commission and omission were possible. When the proportion of commission errors made by each child was con-

Table 2  
*Mean Proportion of Correct Answers to Specific and Misleading Questions*

Question	Participants				Bystanders			
	4-year-olds		7-year-olds		4-year-olds		7-year-olds	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Specific								
Person	0.76	0.07	0.87	0.11	0.67	0.10	0.92	0.13
Action	0.79	0.11	0.91	0.07	0.82	0.14	0.88	0.09
Room	0.65	0.13	0.63	0.20	0.57	0.22	0.68	0.15
Time	0.29	0.18	0.27	0.10	0.20	0.20	0.33	0.20
Misleading								
Person	0.76	0.14	0.61	0.17	0.47	0.27	0.75	0.19
Action	0.86	0.11	0.95	0.08	0.77	0.16	0.92	0.09
Room	0.52	0.34	0.48	0.24	0.41	0.22	0.41	0.28
Time	0.56	0.53	0.56	0.53	0.56	0.53	0.67	0.50

sidered, a main effect of age emerged,  $F(1, 32) = 9.93, p < .01$ . Older children made fewer commission errors than did younger children ( $M_s = 0.02$  and  $0.09$ , respectively). However, the Age  $\times$  Participant–Bystander Actions interaction was significant,  $F(1, 32) = 11.16, p < .01$ . Analysis of simple effects revealed that the proportion of commission errors made by the 4-year-olds and the 7-year-olds ( $M_s = 0.06$  and  $0.03$ , respectively) did not differ significantly for the participant's actions,  $F(1, 34) = 0.97$ , whereas significant age differences emerged in response to questions about the bystander's actions (4-year-olds,  $M = 0.13$ ; 7-year-olds,  $M = 0.01$ ),  $F(1, 34) = 20.03, p < .001$ .

The Condition  $\times$  Participant–Bystander Actions interaction was also significant,  $F(1, 32) = 5.53, p < .05$ . Analysis of simple effects revealed that participants made fewer commission errors concerning their own actions than concerning the bystander's actions ( $M_s = 0.02$  and  $0.08$ , respectively),  $F(1, 34) = 6.82, p < .025$ , whereas the proportion of commission errors made by the bystanders did not differ when they were asked about their own or the other child's actions ( $M = 0.06$  for both age groups). Thus, for participants, fewer commission errors were made to specific questions about their own actions than about the bystanders' actions.

When the proportion of omission errors made by each child was similarly analyzed, there were no significant main effects or interactions involving age or condition. Because more actions occurred for the participants than the bystanders, a main effect of participant–bystander actions for the omission errors is not meaningful.

It was also possible for the children to respond to our specific questions regarding the actions by saying "I don't know" or "I don't remember." However, children rarely did so ( $M = 0.02$ ), and the frequency of this response did not differ reliably as a function of age, condition, or participant–bystander actions.

Of special interest were the children's responses to the abuse questions. When the proportion of specific abuse questions answered correctly by each child was analyzed, a significant main effect of age emerged,  $F(1, 32) = 5.69, p < .05$ . Seven-year-olds were more accurate than 4-year-olds ( $M_s = 0.90$  and  $0.82$ , respectively). In addition, a significant main effect of participant–bystander actions indicated that the children were more accurate in response to the specific abuse questions about what the bystander did compared with what the participant did ( $M_s = 0.92$  and  $0.80$ , respectively),  $F(1, 32) = 11.68, p < .01$ .

In response to the abuse questions, commission errors would be especially dangerous because, in the context of abuse investigations, they could lead to suspicions that the children had been abused. The proportion of commission errors made by each child to the specific abuse questions was analyzed, with the proportions calculated by using as a denominator the total number of specific abuse questions on which a commission error was possible. There were no significant main effects or interactions. Seven-year-olds did not make a single commission error to the specific abuse questions. Four-year-old participants made very few commission errors, whereas 4-year-old bystanders evidenced a slightly higher, but still low, error rate ( $M_s = 0.03$  and  $0.07$ , respectively). When the proportion of omission errors and "don't know" responses ( $M_s = 0.09$  and  $0.02$ , respectively) to the specific abuse questions were consid-

ered separately, there were no significant main effects or interactions.

In summary, participation in the event did not enhance the children's ability to answer the specific questions overall. Age differences were apparent, however. Older children were more accurate than younger children in answering specific questions about the person and the actions. Although significant age differences also appeared in children's correct answers to the specific abuse questions, no age differences were apparent in the proportion of commission errors made to these questions. Children made few commission errors in response to the specific abuse questions. They were generally more accurate about the bystander's than the participant's actions, probably because, as the children frequently reminded us, the bystander "just watched."

### Misleading Questions

To examine the children's ability to resist misleading questions, a MANOVA was first conducted that included age (4-year-olds vs. 7-year-olds) and condition (participants vs. bystanders) as between-subjects variables and proportion of correct responses to each type of question (person, action, room, and time) as dependent measures (see Table 2). A correct response was defined as the child actively countering our suggestion (e.g., saying "no" or "he wasn't wearing a hat" to the question "What color was the hat he was wearing on his head?"). The age effect was not significant (4-year-olds,  $M = 0.61$ ; 7-year-olds,  $M = 0.67$ ),  $F(4, 29) = 4.00, p < .10$ . The main effect of condition also failed to reach significance (participants,  $M = 0.66$ ; bystanders,  $M = 0.62$ ),  $F(4, 29) = 0.96$ . Thus, when the misleading questions were considered as a whole, significant age differences in suggestibility were not apparent, and participation did not enhance resistance to suggestion.

However, for the 4-year-olds, being a participant as opposed to a bystander was associated with higher resistance to suggestion about the confederate. The Age  $\times$  Condition interaction was significant,  $F(4, 29) = 2.86, p < .05$ . Univariate tests revealed a significant interaction for the person questions only. The 7-year-old and 4-year-old participants did not significantly differ in their resistance to suggestion about the confederate's appearance, whereas 7-year-old bystanders were more resistant to such suggestions than were 4-year-old bystanders,  $F(1, 16) = 6.72, p < .025$ . Moreover, 4-year-olds were better able to resist suggestion about the confederate when they were participants than when they were bystanders,  $F(1, 16) = 8.32, p = .01$ . Apparently, younger children who were actively engaged in activities with the confederate were more certain of his appearance than were the younger children who simply watched.

When the "don't know" responses to the misleading questions occurred ( $M = 0.11$  overall), they did so mainly in response to questions about the person. Inclusion of the "don't know" responses (which could be viewed as a type of resistance to suggestion in that the children failed to confirm our suggestions when they said "don't know") raises the overall mean for the misleading person questions from  $0.65$  to  $0.84$ . It also resulted in a significant overall age effect on a MANOVA concerning the misleading questions,  $F(4, 29) = 3.42, p < .05$ . Univariate analyses revealed that, in addition to the age effect concern-

ing the action questions, the age effect was significant on the person questions (7-year-olds,  $M = 0.94$ ; 4-year-olds,  $M = 0.74$ ),  $F(1, 32) = 12.56$ ,  $p < .001$ . The Age  $\times$  Condition interaction was not significant. Thus, when resistance to suggestion about the confederate was indexed by correct responses (i.e., the ability to counter our false suggestions), the 4-year-old bystanders performed more poorly than the 4-year-old participants or 7-year-old bystanders. But when the "don't know" responses were included as an additional index of resistance to suggestion, the effects of participation were no longer apparent.

We were also interested in possible differences in suggestibility about the participant actions as a function of whether the child actively participated in the games or merely watched. A series of 2 (age)  $\times$  2 (condition)  $\times$  2 (participant-bystander action) ANOVAs, with the latter variable varied within subjects, were again conducted. Again, these analyses permit control over the to-be-remembered stimuli as well as permit investigation of whether participants compared with bystanders remembered participant actions better and whether bystanders compared with participants remembered bystander actions better. When the proportion of misleading questions answered correctly was analyzed, main effects of age,  $F(1, 32) = 8.65$ ,  $p < .01$ , and condition,  $F(1, 32) = 4.54$ ,  $p < .05$ , were significant. Seven-year-olds were less suggestible about the actions than 4-year-olds ( $M_s = 0.94$  and  $0.84$ , respectively). Confirming our predictions, participants were less suggestible than bystanders ( $M_s = 0.93$  and  $0.85$ , respectively). Finally, regardless of condition, the children were less suggestible about the bystander's actions than about the participant's actions ( $M_s = 0.93$  and  $0.84$ , respectively).

When the proportion of commission errors made by each child in response to the misleading action questions was considered, there were no significant main effects or interactions. Regardless of age, children who participated in the event did not make a single commission error. For the bystanders, however, only one 7-year-old made a commission error. On the other hand, 4-year-old bystanders made a few commission errors ( $M = 0.09$ ).

Omission errors were more frequent than commission errors. A main effect of age,  $F(1, 32) = 13.20$ ,  $p < .01$ , indicated that 7-year-olds made fewer omission errors than 4-year-olds ( $M_s = 0.04$  and  $0.11$ , respectively). There were no significant differences in the few "don't know" responses made as a function of age, condition, or participant-bystander actions ( $M = 0.03$ ).

In response to the questions of special relevance to abuse cases, the main effect of age was not significant when the proportion of correct answers to the misleading abuse questions was entered as the dependent measure (4-year-olds,  $M = 0.88$ ; 7-year-olds,  $M = 0.94$ ),  $F(1, 32) = 3.31$ . A significant main effect of participant-bystander actions,  $F(1, 32) = 31.26$ ,  $p < .001$ , indicated that the children answered more of the misleading abuse questions correctly about the bystander's actions than about the participant's actions ( $M_s = 0.99$  and  $0.83$ , respectively).

However, hardly any commission errors were made to the misleading abuse questions. The participant children, regardless of age, did not make a single commission error on the abuse questions. The 7-year-old bystanders also failed to make any

commission errors. In fact, only one child—a 4-year-old bystander—made any commission errors to the misleading abuse questions, resulting in an overall mean of 0.05. This child falsely confirmed that both he and the participant child had been spanked. There were no significant main effects or interactions.

Virtually all of the children's errors were of omission. When the proportion of omission errors made by each child was analyzed, a main effect of age,  $F(1, 32) = 7.26$ ,  $p < .025$ , was subsumed under a significant Age  $\times$  Participant-Bystander Actions interaction,  $F(1, 32) = 7.26$ ,  $p < .025$ . None of the children made an omission error about the bystander's actions (few such omission errors were possible given the questions asked). However, analysis of simple effects revealed that 4-year-olds made significantly more omission errors than 7-year-olds ( $M_s = 0.19$  and  $0.06$ , respectively) about the participant's actions,  $F(1, 34) = 6.66$ ,  $p < .025$ .

It was also possible for the children to say "don't know" in response to our misleading abuse questions. When the proportion of "don't know" responses made by each child was analyzed, there were no significant main effects or interactions. On average, children made few "don't know" responses ( $M = 0.03$ ).

In summary, there were no significant age differences in the overall proportion of misleading questions answered correctly. However, the younger children were more suggestible than the older children about the actions that occurred. The younger children were also more suggestible about the confederate's appearance, but only when they were bystanders. When the 4-year-olds actively participated in the games, they were no more suggestible about the confederate's appearance than the 7-year-olds. Participation also influenced suggestibility about the actions that took place, with participants being less suggestible than bystanders. However, no significant age differences were found in the children's ability to resist the abuse-related suggestions. Children's errors were largely of omission rather than commission, with the 4-year-olds more prone to errors of omission than the 7-year-olds.

### *Correctly Leading*

For each child, there was one question that was correctly leading. This question concerned touching. Whether each child answered this question accurately was entered into a 2 (age)  $\times$  2 (condition) ANOVA. There were no significant main effects or interactions. In general, the children were accurate ( $M = 0.83$ ). Nevertheless, 4 children, three 4-year-olds and one 7-year-old, countered our correct suggestion by indicating that either they or the other child had been touched by the confederate when in fact they had not been. However, the children did not provide any detail or sexualized answers to this question.

### *Spontaneous Recall*

During the questioning, the children at times spontaneously recalled additional information. Spontaneous recall was scored in the same way as free recall and by the same rater who scored the free recall protocols. For each child, the number of correct and incorrect spontaneous statements was entered into a 2 (age)  $\times$  2 (condition)  $\times$  2 (correct vs. incorrect response) AN-

OVA, with the latter variable varying within subjects. Children spontaneously recalled more correct information than incorrect information ( $M_s = 6.86$  and  $1.75$ , respectively),  $F(1, 32) = 12.49$ ,  $p < .01$ . Although most of the children did not provide any incorrect spontaneous comments, the same child who confused the anatomy museum trip with the trailer visit produced 30 incorrect spontaneous statements. For example, he matter-of-factly claimed that the confederate used a magic wand to make the other boy disappear. There were no other significant main effects or interactions.

### *Age Identification*

Recall that two methods of asking about the age of the confederate were examined. One consisted of simply asking, "How old was the person in the trailer?" The other consisted of showing the child magazine pictures of four males from the following age groups: childhood, young adulthood, middle age, and old age. For children who were shown the age identification lineup, the correct response was pointing to the picture of the young adult. Children who were asked to state the age of the confederate were considered to have made a correct response if they judged his age to be in the 20s. Although adults' ratings of the young adult's age ranged from 21 to 27 years, we elected to use a range from 20 to 29 years in scoring the children's verbal answers because this permitted the statement that the confederate was "in his 20s" to be included as a correct response.

For each child, a correct or incorrect score to the age question was entered into a 2 (age)  $\times$  2 (method) ANOVA, with both variables varying between subjects. There was a significant main effect of the method used,  $F(1, 32) = 20.39$ ,  $p < .001$ . The picture method led to a far greater proportion of correct responses than the question method ( $M_s = 0.75$  and  $0.13$ , respectively). There were no other significant main effects or interactions.

A closer look at the children's responses indicated that the age-identification lineup was particularly helpful for the 4-year-olds. When simply asked the man's age, 88% of the 4-year-olds said "don't know," whereas 70% of them could point to the correct picture. In contrast, 38% of the 7-year-olds said "don't know" when asked the man's age, with another 50% claiming that the man was in his 30s or 40s. On the age-identification lineup, 80% of the 7-year-olds pointed to the correct picture. Given the large age differences reflected in the pictures we used, it could be argued that the 7-year-olds' verbal responses provided about as much accurate information as did their responses to our age-identification lineup. However, the age-identification lineup aided 4-year-olds in specifying the man's age. On the basis of the 4-year-olds' responses to our age-identification lineup, it would have been possible to determine that the man was an adult under the age of about 40 years.

### Discussion

As predicted, participation in a real-life event heightened the children's resistance to suggestion. On misleading action questions, participants were less suggestible than bystanders. On misleading questions concerning the confederate's appearance, 4-year-old participants were less suggestible than 4-year-old

bystanders, and an age difference appeared only for bystander witnesses. This pattern indicates that participation can strengthen resistance to suggestion, and that at least at times, the effects are especially evident for young children.

Our findings have both applied and theoretical implications. In terms of application, our findings suggest that, with all else equal, child participant witnesses may be less suggestible than child bystander witnesses, for at least some types of information. Theoretically, our findings join with those of other researchers who have found that activity in an event supports more advanced performance in children on a variety of tasks (Baker-Ward et al., 1990; Paris & Lindauer, 1976; Feldman & Acredolo, 1979; see also Slackman et al., 1986).

Although this study was not designed to determine the exact reason for the participants' greater resistance to suggestion, several possible reasons should be considered. One possibility is that the reduced suggestibility of the participants compared with that of the bystanders resulted, at least in part, from greater attention, more active processing of the event, or both. As predicted, the effects of participation appeared for the questions about the actions and the confederate, the two features of the event for which participation would be expected to enrich memory. Moreover, participants may have been more likely than bystanders to encode the event in relation to self-schema, which may provide elaborated knowledge structures to support memory (Baker-Ward et al., 1990) and resistance to suggestion.

However, the fact that participation did not have a pervasive effect on the children's memory for the event is troublesome for a memory-based interpretation. Participants and bystanders performed equally well in terms of the amount of information recalled, answers to specific questions, and amount of spontaneous detail provided. The children's memory may have still been too strong after 10 to 12 days for participation to have a pervasive effect. It is also possible that participants were no more able than bystanders to recall details of the event or answer specific questions about it because such tests were more likely to require retrieval of specific information, whereas the misleading questions merely required the children to indicate that we were wrong. Owing to the relatively small number of children included in our study, we may not have had sufficient statistical power to uncover less robust effects of participation. In that regard, it is interesting to note that in Tables 1 and 2, the lowest mean is typically found for 4-year-old bystanders.

It could also be argued that we did not uncover pervasive effects of participation on memory because, in some sense, all of the children in our study participated in the event, given that both children were present in the trailer (but see Baker-Ward et al., 1990). Perhaps if the bystander children had, for example, simply watched a videotape of the participant's and confederate's activities, more pervasive effects of participation on memory might have emerged.

Alternatively, the beneficial effects of participation on children's resistance to suggestion may derive from nonmemory factors. Even if the participants and bystanders remembered the event equally, the participants might have had greater confidence in their memories, at least for the types of information that could be remembered fairly well (i.e., person and action information). Moreover, the event might have been more important to the participants, giving them greater motivation to



counter our suggestions. Further research is needed to clarify the basis for our findings and to determine how the effects of participation might change as the level of involvement is systematically varied.

In addition to the effects of participation on children's reports, we were also interested in examining age differences in children's testimony. Consistent with previous findings, older children recalled more about the event than younger children, and older children were more accurate than younger children in answering the specific questions, at least about the person and the actions (e.g., Goodman & Reed, 1986; King & Yuille, 1987; Marin, Holmes, Guth, & Kovac, 1979). However, no significant age differences were detected in children's answers to the misleading questions overall. Our findings do not support the assertion, made decades ago and again in more recent times, that children are highly suggestible (e.g., Loftus, 1979; Varendonck, 1911; but see Loftus & Davies, 1984). In contrast, our findings, like those of others (e.g., E. M. Duncan, Whitney, & Kunen, 1982; Marin et al., 1979; Zaragoza, 1987), indicate that children's suggestibility is limited in important respects. The children in our experiment evidenced considerable resistance to suggestion, and although some age differences were found (e.g., resistance to misleading questions about actions), these age differences were primarily attributable to errors of omission rather than commission.

Our findings underscore the usefulness of distinguishing between correct responses and various types of errors in studying children's suggestibility. It may also be useful to distinguish between active resistance to suggestion (e.g., the child's ability to counter a false suggestion, as indexed by correct answers to misleading questions) and passive resistance to suggestion (e.g., saying "I don't know"). Reliance on correct responses alone may at times result in an incomplete or even misleading picture of children's suggestibility.

In studies of children's suggestibility, attention should also be given to the types of questions asked. Some of our questions were tag questions, phrased in the negative (e.g., "He didn't have brown eyes, did he?"). Tag questions and negative constructions were included because of their legal relevance (Myers, 1987), but such questions are likely to be difficult for young children. Children's suggestibility may vary depending in part on their ability to understand certain linguistic forms (Saywitz et al., 1989). Although it is possible that the children we tested had difficulty understanding some of the tag questions and negative constructions we used (deVilliers & deVilliers, 1978; M. Duncan, Sugar, & Whitaker, 1982), to our surprise even 4-year-olds achieved perfect or near-perfect scores on a number of these questions (e.g., "He wasn't a grown up, was he?" "He took the other boy's [girl's] clothes off, didn't he?").

Of interest in regard to recent concerns about children's suggestibility in child abuse cases (e.g., Goodman et al., 1987; Raskin & Yuille, 1989), children showed high resistance to suggestion about actions that might be associated with abuse. Specifically, in response to our abuse-related questions, 7-year-olds made only one commission error out of 252 opportunities. Even for the 4-year-olds, who made a total of 13 commission errors, 95% of their responses to the abuse questions were correct, and most 4-year-olds (13 out of 18 children) did not make a single commission error to the abuse questions. What

might be considered our most legally dangerous and strongly leading question (i.e., "He took your clothes off, didn't he?") was answered correctly by all of the children. When errors were made to the other abuse questions, they typically consisted of only a nod of the head with no detail or elaboration provided.

It should be kept in mind, however, that aside from the influence of our leading questioning itself, children in our study had no motivation to accept our abuse suggestions. Moreover, the events they experienced were not of an abusive or intimate nature. Nevertheless, a number of the actions that occurred in the trailer, such as touching, taking clothes (i.e., a costume) on and off, and posing for pictures, were potentially confusable with actions related to abuse. In at least some, if not many, actual child abuse investigations, children also have no reason to concede falsely to the suggestion that abuse occurred (Brigham, *in press*), and, at least when the accused is innocent, the questions asked, like some of ours, may bear only partial or even very little relation to what actually occurred.

It is important to note that the children's testimony was inaccurate in a number of ways. The children were often unable to answer questions about the timing of the event. For example, they had difficulty relating how long they had stayed in the trailer and how much time had elapsed since their trailer visit. Another weakness appeared in reports of the confederate's age, which the children could not state accurately within 5 years. The 4-year-olds' accuracy was markedly improved by the inclusion of an age-identification lineup, which eliminated the need for a verbal report. This result is promising because it implies that at least some weaknesses in young children's testimony can be overcome with the aid of age-appropriate techniques. Further research is needed, however, to develop more refined techniques to improve children's reports.

Unlike most of the children we tested, one child provided highly inaccurate testimony, with his inaccuracies appearing largely in free recall and spontaneous statements. This child's errors resulted partly from his retrieval of the wrong event from memory (i.e., a trip to an anatomy museum rather than to the trailer). However, even after retrieving the correct event, this child described actions that clearly had not occurred (e.g., that our confederate used a magic wand to make the other little boy disappear). Although the extent of this child's inaccuracies was unusual in our experience, as Neisser (1990) pointed out, testimony from a single child like him could have serious consequences for the legal system.

Finally, possible relations of our findings to research on memory impairment should be mentioned. Although the paradigm we used to study children's suggestibility differs from that used in studies of memory impairment, one might speculate on the basis of our findings that young participant witnesses may be less susceptible to memory impairment effects than young bystander witnesses, at least for certain types of information.

In conclusion, although level of participation in an event did not have a pervasive effect on children's memory, it did serve to heighten children's resistance to suggestion. Our findings indicate that research on child bystander witnesses may underestimate child participant witnesses' potential to resist certain types of suggestion, at least under the conditions in which suggestibility has typically been studied (i.e., questioning children

in a single interview about a one-time event in the absence of motivation to falsify a report).

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(Appendix follows on next page)

## Appendix

## Specific, Misleading, and Age Questions for Children in the Participant and Bystander Conditions

Below are the questions asked. The question type and a sample correct answer follow in brackets; an *A* in parentheses denotes an abuse question.

## Person Questions

1. Was anybody in the trailer with you? [Specific: Yes, a man]
2. Anybody else? [Specific: Yes, another child]
3. Did she [he, they] stay inside the trailer the whole time? [Specific: Yes]
4. When you first got to the trailer, was there already somebody inside? [Specific: Yes]
5. Was the person a man or a woman? [Specific: Man]
6. He didn't have dark hair, did he? [Misleading: Yes, he did]
7. What color was the hat he was wearing on his head? [Misleading: He wasn't wearing a hat]
8. He was very fat, wasn't he? [Misleading: No]
9. What color skin did the person have? [Specific: White]
10. Where had you seen him before that day? [Misleading: Nowhere]
11. He had a beard and a mustache, right? [Misleading: No]
12. Was he a tall man or a short man? [Specific: Tall]
13. He wasn't a grown-up, was he? [Misleading: Yes, he was]
14. He didn't have brown eyes, did he? [Misleading: Yes, he did]

## Age Questions

- 15A. Look at these people I found in a magazine. This is a little boy about your age, this is a man about my age, this is a man about your dad's age, and this is an old man. Which picture is of a man who is about the same age as the man who was in the trailer with you? [Picture of young adult]
- 15B. About how old was the man in the trailer? [25 years]

## Action Questions

16. The person in the trailer didn't touch you, did he? (A) [Participant, misleading: Yes] [Bystander, correctly leading: No]
17. He didn't touch the other boy [girl], did he? (A) [Participant, correctly leading: No] [Bystander, misleading: Yes]
18. Did he kiss you? (A) [Specific: No]
19. Did he kiss the other boy [girl]? (A) [Specific: No]
20. Did he ask you to put on a costume? [Participant, specific: Yes] [Bystander, specific: No]
21. Did he ask the other boy [girl] to put on a costume? [Participant, specific: No] [Bystander, specific: Yes]
22. He took your clothes off, didn't he? (A) [Misleading: No]
23. He took the other boy's [girl's] clothes off, didn't he? (A) [Misleading: No]
24. What did the costume that he asked you to wear look like? [Participant, specific: A clown's outfit] [Bystander, misleading: I didn't wear one]
25. What did the costume that he asked the other boy [girl] to wear look like? [Participant, misleading: He [She] didn't wear one] [Bystander, specific: A clown's outfit]
26. Did he take a picture of you? (A) [Participant, specific: Yes] [Bystander, specific: No]
27. Did he take a picture of the other boy [girl]? (A) [Participant, specific: No] [Bystander, specific: Yes]
28. He showed you some pictures of people in bathing suits, didn't he? [Misleading: No]
29. He showed the other boy [girl] some pictures of people in bathing suits, didn't he? [Misleading: No]

30. When he took the picture, were you sitting, standing, or lying down? [Specific: Sitting]
31. When he took the picture, was the other boy [girl] sitting, standing, or lying down? [Specific: Sitting]
32. When he took the picture, did he ask you to sit, stand, or lie down a certain way? [Specific: Yes]
33. When he took the picture, did he ask the other boy [girl] to sit, stand, or lie down in a certain way? [Specific: Yes]
34. How many times did he spank you? (A) [Misleading: None]
35. How many times did he spank the other boy [girl]? (A) [Misleading: None]
36. Did he put anything in your mouth? (A) [Specific: No]
37. Did he put anything in the other boy's [girl's] mouth? (A) [Specific: No]
38. Did you touch him? (A) [Participant, specific: Yes] [Bystander, specific: No]
39. Did the other boy [girl] touch him? (A) [Participant, specific: No] [Bystander, specific: Yes]
40. He took you to some other room and took your shoes off, right? [Misleading: No]
41. He took the other boy [girl] to some other room and took off his [her] shoes, right? [Misleading: No]
42. He didn't talk to you with puppets, did he? [Misleading: Yes, he did]
43. He didn't talk to the other boy [girl] with puppets, did he? [Misleading: Yes, he did]

## Room Questions

44. How many doors were there in the room? [Specific: Two]
45. Was there a TV set in the room? [Specific: No]
46. There wasn't a mirror in the room, was there? [Misleading: Yes, there was]
47. Were there any pictures or posters on the walls? [Specific: No]
48. The walls were painted blue, weren't they? [Misleading: No]
49. What color were the curtains on the window? [Misleading: There were no curtains]
50. Was there a carpet on the floor? [Specific: No]
51. Were there lights on in the room? [Specific: Yes]
52. How many chairs were there in the room? [Specific: Three]

## Time Questions

53. Exactly how many days ago was it that you were in the trailer with the man? [Specific: 10-12]
54. When you were in the trailer, what time of day was it? [Specific: afternoon, 4:00, right after school]
55. How long were you in the trailer? [Specific: about 10 min]
56. How long was the other boy [girl] in the trailer with the man? [Specific: about 10 min]
57. I want you to tell me how long he was wearing the mask, so I'm going to count and I want you to stop me when it's the same amount of time. (Interviewer counted until child stops her.) [Specific: about 10 s]
58. Now we'll do the same thing, but stop me when it's been as long as the man tickled your feet. (Interviewer counts until child stops her or indicates that the man did not tickle child's feet.) [Misleading: He didn't tickle my feet]

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