

What Did the Janitor Do? Suggestive Interviewing and the Accuracy of Children's Accounts

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Examined the influence of suggestive interviews on 5- to 6-year-old children's reports and recollections of an adult's behavior. Children (29 girls, 27 boys) witnessed a confederate, acting as a janitor, either clean or play with toys. An hour later they were interviewed in succession by the janitor's "boss," by an experimenter, and by their own parent. Parents interviewed their child again 1 week later. The boss and experimenter interviewed the child in one of three ways: neutral (nonleading), incriminating (suggesting the janitor was bad and playing on the job), or exculpating (suggesting the janitor was good and doing his job of cleaning). When these interviews were neutral, children consistently gave accurate accounts of the janitor's behavior. When these interviews were suggestive, children's accounts shifted strongly in the direction of suggestion as the interviews progressed. By the end of the suggestive interviews, children's accounts uniformly corresponded to the interviewers' suggestions, even when the suggestions were inconsistent with what actually happened. These effects of suggestion persisted during the two nonleading parent interviews.

The phenomenon is well known. Suspicions arise about the abuse of children. The alleged victims are questioned by police officers, social workers, therapists, and parents. Hesitant at first, the children gradually begin to tell stories that confirm, and sometimes go beyond, the worst suspicions. In the ensuing criminal trial, the prosecutors insist that the jury must "believe the children," while defense lawyers argue that biased and suggestive questioning colored children's interpretations of events and planted false memories.

Cases of this type have generated intense interest in children's susceptibility to suggestion. The issue is clearly important: each year an estimated 20,000 children testify in sexual abuse trials and as many as 80,000 are involved in investigations that never go to trial (Goleman, 1993). These cases often have no physical evidence (DeJong, 1985), so it is necessary to rely on children's verbal testimony. Children

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are invariably questioned extensively before trial and the questions are often leading (Ceci & Bruck, 1995; Underwager & Wakefield, 1990). It is important to know whether, and under what circumstances, suggestive questioning can induce children to adopt an incorrect interpretation of events they have witnessed or to report events that never occurred.

Although there is now an extensive literature on children's suggestibility (for reviews, see Baxter, 1990; Lepore, 1991; Ceci & Bruck, 1993, 1995), opinion in the field appears divided about whether children's suggestibility poses a serious problem for the legal system. Some experts minimize the problem (Goodman, Bottoms, Schwartz-Kenney, & Rudy, 1991; Goodman, Rudy, Bottoms, & Aman, 1990). They concede that children, like adults, sometimes report incorrect information in response to suggestive or leading questions, but they emphasize that most children respond correctly most of the time when questioned about events they have witnessed in experimental studies, and they are skeptical of claims that children may invent serious allegations in response to suggestive questions. Other experts are less sanguine (Ceci & Bruck, 1995; Underwager & Wakefield, 1990). They argue that alleged victims of abuse often undergo interrogations that are far more persistent and suggestive than those in experimental studies and they find it ominous that even mild suggestions in the studies induce errors in some instances.

A key issue underlying these differing interpretations of the literature is how adequately existing studies simulate the experience of children involved in pretrial interrogations. Many studies in the literature were motivated by researchers' interest in children's memory rather than their interest in the accuracy of children's responses to the type of interrogation that an alleged abuse victim might undergo. Consequently, the kinds of *events* that children witness in these studies, and the kinds of *interviews* that follow such events, are often quite different from what happens to an alleged abuse victim.

THE EVENT

Abuse allegations often arise out of complex interactions between the child and an adult whose intentions are subject to differing interpretations. A teacher removes a child's underpants in a restroom: is he molesting the child, or simply cleaning up an "accident?" A stepparent touches a child's genitals at bath time: is this sexual fondling or just cleaning? In such cases, the child's overall interpretation of the event, as well as memory for specific details, is relevant. Does suggestive questioning lead to inaccurate accounts of events of this sort?

In most earlier studies of children's suggestibility, the events about which children were questioned differed in potentially important ways from the complex personal interactions that are the focus of the present study. In many studies, the event did not involve personal interaction with an adult. Children have been questioned about stories (Ceci, Ross, & Toglia, 1987), pictures (Zaragoza, 1987), audiotapes (Saywitz, 1987), films (Cohen & Harnick, 1980; Dale, Loftus, & Rathbun, 1978; Dent & Stephenson, 1979), videotapes (Baxter & Davies, 1987), and slides (Duncan, Whitney, & Kunen, 1982). Several studies involved staged events—a confederate

interacting with the experimenter (Marin, Holmes, Guth, & Kovac, 1979), a man watering plants (King & Yuille, 1987), two adults having a conflict (Saywitz & Snyder, 1991), or an intruder who appears for a few seconds (Leippe, Romanczyk, & Manion, 1991). But these events may not have captured children's attention and interest.

A few studies have used a third kind of event—the child's participation in medical procedures, such as inoculations (Goodman et al., 1990, 1991; Tucker, Merton, & Luszcz, 1990) or physical examinations (Saywitz, Goodman, Nicholas, & Moan, 1991). These events involve direct interaction with an adult and hence are closer to the type of situation that is of concern here, but may still lack some of the complexity and ambiguity inherent in many child abuse situations. Furthermore, children's interpretations of their interaction with medical personnel, in particular, are likely to be influenced by familiar "scripts" regarding the roles of doctor, nurse and patient. Children's understanding of how doctors and patients are *supposed* to interact may make children especially resistant to suggestions that deviate markedly from a "visit to the doctor" script, such as the suggestion that the doctor took off her own clothes and spanked or kissed the patient (Goodman et al., 1990, 1991).

The present study was designed to explore children's susceptibility to suggestion about an event that entailed a novel and complex interaction with an adult whose intentions were somewhat ambiguous. It involved the child interacting with a "janitor" who either behaved appropriately and cleaned a set of toys, or behaved inappropriately by stopping work in order to play with the toys.

Another common aspect of abusive incidents is that the perpetrator asks the child "not to tell" what he did (Sgroi, Porter, & Black, 1982). For this reason, some researchers have investigated the effect of asking children to keep a secret. They have found that whether children maintain silence depends on several variables, including the child's age [5- to 6-year-olds are more likely to keep a secret than either younger children (Bottoms, Goodman, Schwartz-Kenney, Sachsenmaier, & Thomas, 1990; Bussey, 1992) or older children (Pipe & Goodman, 1991)], the time that has elapsed since the event [the number of children who disclose the secret increases over time (Wilson & Pipe, 1989)], and how sternly the perpetrator asks the child to keep the secret [threats promote secret keeping (Bussey, 1992)]. These researchers have not evaluated the effect of a highly suggestive interview on the children's willingness or ability to keep a secret, however. In order to explore this issue, we included a condition in our study in which children were asked by the "janitor" not to tell what had happened.

THE INTERVIEW

Children who are potential witnesses in criminal trials are sometimes subjected to persistent interrogation by adults seeking to confirm a preconceived notion of what happened (Bikel, 1993; Underwager & Wakefield, 1990; Dent, 1982; DeYoung, 1986; Faller, 1984; Raskin & Yuille, 1989). The interviews may be lengthy, sometimes extending over days or weeks, and may be carried out by a number of adults—parents, doctors, teachers, police detectives, social workers, mental health

professionals, lawyers, and judges (Whitcombe, Shapiro, & Stellwagen, 1985; Conte, Sorenson, Fogarty, & Rosa, 1991). Even when trying to be neutral and objective, an interviewer's preconceptions can bias the questions that are asked and the answers that are given (Ceci, Leichtman, & White, in press). Moreover, to the extent these interviews are suggestive, the suggestions are not random but tend to be consistent with the adults' general view of what happened. If the interviewers share the same suspicions, then the suggestions of multiple interviewers are likely to follow and reinforce the same theme.

Existing studies of children's suggestibility fail in a number of ways to simulate the experience of children exposed to these real-life interrogations. The suggestions made in these studies have typically been contained in leading questions that are asked only once by a single interviewer. Some of these questions may be too complex syntactically for young children to comprehend: for example, negative and double negative questions: "Didn't she touch your bottom?" "That person didn't touch you, did she?" More importantly, the suggestions themselves are often implausible and unrelated. Consider, for example, the leading questions about "abuse" used in research by Goodman (Goodman et al., 1990, 1991): "She [an adult who examined the child] didn't have any clothes on, did she?" "How many times did he spank you?" "He took your clothes off, didn't he?" "Did he kiss you?" From the child's point of view, these suggestions are unlikely and unexpected. Each question was simply asked once, without follow-up, and the experimenter then moved on to unrelated questions.

In real-life investigations, by contrast, an interviewer pursuing a hypothesis of either abuse or false accusation would be more likely to follow up questions with related ones and to make coherent suggestions about what might have happened. In other words, the suggestive questions would offer a coherent picture of the event, rather than a jumble of nonsequiturs.

Furthermore, the suggestions would be repeated. Not only is repeated questioning characteristic of real interviews, but research suggests that repeating a question (Moston, 1987) or following up a question by asking "Did it really happen?" (Gordon, Jens, Shaddock, & Watson, 1991) leads children to give less accurate accounts of what happened. Repetition may also make the suggestion more emphatic and persuasive. In the Goodman studies, for example, the suggestion that elicited the most frequent incorrect response was the one that the experimenter made most emphatically ("The nurse told all the other kids to keep a secret. Didn't she tell you to keep a secret too?").

The present study was designed to test the effects of a persistent suggestive interrogation in which a set of suggestions that followed a common, coherent theme were offered repeatedly by two different interviewers. Our goal was to simulate more closely than previous studies the questioning that child witnesses may experience when they are interviewed by adults with preconceived notions about what happened. We examined the effect of such questioning on children's overall interpretation of the event they had witnessed as well as their recall of specific factual details. Three types of interviews were used. "Neutral" interviewers asked open-ended and relatively nonleading questions, "incriminating" interviewers asked ques-

tions suggesting that the "janitor" had misbehaved, and "exculpating" interviewers asked questions suggesting that the "janitor" behaved properly.

METHOD

Overview

Children aged 5–6 years, participating in a memory study, were each left alone in a laboratory room while completing memory tasks. During this interval, a researcher posing as a janitor entered the room and enacted one of three scenarios. In one scenario, the cleaning condition, the janitor cleaned up around the room and then cleaned some toys that were in front of the child. In the playing condition, the janitor did some perfunctory cleaning and then played with the same toys. In a third scenario, the secret condition, the janitor played with the toys and then, before leaving the room, asked the child not to tell anyone he had played with the toys.

About an hour later, the child was questioned about what the janitor had done by three adults in succession: an unfamiliar adult identified as the janitor's boss, a familiar adult (the experimenter who was administering the memory tasks), and the child's own parent. The boss and the experimenter interviewed the child in one of three different ways. In the exculpating interview, they questioned the child in a manner designed to suggest that the janitor had been behaving appropriately (i.e., doing his job of cleaning). In the incriminating interview, they questioned the child in a manner designed to suggest that the janitor had been behaving inappropriately (i.e., stopping work to play rather than doing his job). In the neutral interview, the questions were designed to avoid any suggestion as to the appropriateness of the janitor's behavior. The parent's interview was always neutral. One week after the laboratory session, the parents again interviewed the child concerning the janitor's actions and other events that occurred during the experiment.

Thus, the study employed a $3 \times 3 \times 4$ design in which the janitor's actions (cleaning, playing, or secret) and the mode of interrogation (incriminating, neutral, or exculpating) were varied between subjects and each child was interviewed four times (by the "boss," the experimenter, and the parent in the experimental session, and again by the parent 1 week later).

Participants

Newspaper and school announcements invited parents to have their 5- to 6-year-old children participate in a study of children's memory. The participants (girls $n = 29$; boys $n = 27$) all lived in a relatively affluent area near the university.

Procedure

The experiment was conducted in a large laboratory playroom that could be monitored through a one-way window from an adjoining observation room. The

experimental session was videotaped through this window; children were unaware that they were being observed. The laboratory room contained a large, comfortable couch and armchair. On a table in front of the couch was a doll (a male doll was used for boys and a female doll for girls), a truck, a fishing game, and a set of drums.

At the beginning of the session, the female experimenter seated the parent and child on the couch, then left them alone while the parent read an illustrated storybook to the child. After the story, the parent went next door to the observation room and the experimenter administered a recognition memory test. The test was presented as a game in which the child was shown photos of individuals and then asked to identify them in group photos. After a number of trials, the experimenter explained to the child how to complete the task and then left the room to get the next game.

While the child was finishing this memory task, the confederate janitor entered the room with a cleaning cart. He introduced himself to the child as the cleaning man and said: "Don't mind me. Go on with your work and I'll clean around you." After emptying wastebaskets and dusting tables behind the child, the janitor approached the coffee table directly in front of the child and began to clean or play with the toys. The cleaning and playing scenarios each lasted about 5 minutes.

Scenarios

In both scenarios, many of the janitor's actions were similar: for example, he sprayed water on the doll's face, manipulated the doll's arms and legs, moved the truck back and forth on the table, and banged the drum with the feather duster. Other actions were unique to the cleaning or playing scenarios. In the cleaning scenario, for instance, the janitor dusted the table under the doll, wiped the doll with a cleaning cloth, and straightened the doll's bow or cap. In the playing scenario he pretended to talk to the doll.

While performing these actions, the janitor gave a running commentary. In the cleaning condition, his comments indicated that his intention was to do his job:

Uh, oh. This doll is dirty. I'd better clean it...I'd better straighten its arms and legs too...you hold its head while I straighten it...Uh oh, its cap is dirty too. I'd better put it in the washing machine...I'd better check the wheels and battery of this truck to make sure they're working. Now I've got to get the dust off this drum....Is there anything else that needs fixing?

In the playing conditions, his comments indicated that his intention was to play rather than work:

Oh goodie! Here's a doll. I like to play with dolls. You know what I like to do with dolls? I like to spray them in the face just for fun...Oh no. Look at that hat. I'd like to take it home with me. I like to play with trucks too. Vroom, vroom, this truck is fun. I like to pretend I'm a drummer whenever I can play with a drum...

At the end of the playing scenario, the janitor in the "secret" condition asked the child to keep his actions secret:

It's really important that you don't tell anyone that I played with the toys. If my boss finds out that I played with them she'll really be mad at me. I could lose my job. Just tell her I cleaned the toys. If you promise not to tell I'll give you this candy. Okay, promise. I'm going to put the candy over here. If you keep our secret then you can take this candy when you leave.

Shortly after the janitor departed, the experimenter returned and administered several additional assessments of memory and personality which were presented as games. The experimenter made no mention of the janitor. These assessments lasted about an hour.

Interviews

At this point, the child was interviewed about the janitor's actions. The first interviewer was a female researcher identified as the janitor's boss, who projected an authoritative manner and entered the room dressed in professional clothing and carrying a clipboard. She asked the experimenter to leave the room, saying: "I need to ask this child some questions." After this first interview was completed, and the boss had left, the experimenter returned, expressed curiosity about what the janitor had done, and began a second interview. Both the boss and experimenter interviews followed the same format:

Initial Suggestion. In the incriminating condition, the interviewer began by announcing her suspicions regarding the janitor, saying:

I need to know what the cleaning man has been doing. You know he sometimes stops working and plays with the toys. He is not supposed to do that.

In the exculpating condition, the interviewer began by announcing her expectation that the janitor had been cleaning, saying:

I need to know what the cleaning man has been doing. You know he is supposed to clean the toys. These toys always get dirty, he is supposed to clean them all over.

In the neutral condition, the interviewer simply said:

I need to know what the cleaning man's been doing. Will you tell me what he did while he was in here?

Child's First Account. The interviewer then began a series of open-ended questions, asking the child to "tell me exactly what he did to the toys." As the child described the janitor's actions, the interrogator used open-ended probes to draw out the story ("What else did he do?" "Why did he do that?" "What did he say?"). In the incrimination condition, the interviewer's demeanor, while friendly and encouraging toward the child, suggested disappointment and concern about the janitor, as if the child were reporting serious misbehavior. She made mild statements, as if to herself, suggesting her disapproval of the janitor's actions ("Tsk." "He is not supposed to do that." "He did not have permission to do that." "That wasn't nice"). In the exculpating condition, the interviewer's demeanor suggested enthusiasm and approval, as if the child were praising the janitor. She made mild statements suggesting approval of the janitor's actions ("Hmm." "He is supposed to do that." "He has permission to do that." "That was nice"). In the neutral condition the interviewer made no comments on the child's description.

Identifying Inconsistencies. The interviewer next asked leading questions that were designed to point out any parts of the child's account that were inconsistent with the suggested interpretation and to propose a reassessment. The interviewer smiled at the child throughout in an encouraging manner, and her tone remained friendly and cheerful, as if she were patiently reasoning with a favorite child. For example, if a child in the incriminating condition said that the janitor had "cleaned" the doll, the interviewer made such comments as: "This doll didn't need to be cleaned. Did you see any dirt on it? Why would he clean a doll that wasn't dirty? Do you suppose he might just have wanted to play with it?" If a child in the exculpating condition said the janitor was playing with the doll, the interviewer made such comments as: "This doll needed to be cleaned. Did you see how dirty it was? It looks much cleaner now. He must have cleaned it. Maybe he pretended to play with it but he was really cleaning?" This phase of the interview was not used in the neutral condition.

Affirmation. After pointing out inconsistencies, the interviewer then asked a series of leading questions which incorporated her own descriptions of the janitor's actions and asked the child to affirm that these descriptions were accurate. In the incriminating condition, the interviewer described the janitor's actions in a manner that suggested misbehavior and playing (e.g., "He squirted water in the doll's face, didn't he? That is naughty, isn't it?"). In the exculpating condition, the interviewer described the janitor's actions in a manner that suggested he was cleaning and doing his job (e.g., "He washed the doll's face? That was good wasn't it?"). In the neutral condition the interviewer mentioned the same actions but, for each, simply asked the child "Why did he do that?" The interviewer's tone and demeanor in all conditions remained friendly and encouraging, not accusatory.

Child's Second Account. Then the interviewer asked the child to retell, in his or her own words, what the janitor had done. As in the first open-ended phase, the interviewer used open-ended probes to draw out the story. When the child had completed his or her account of the janitor's actions, the interviewer again asked: "So was he playing or cleaning?"

Request for Retraction. If the child's answer was inconsistent with the suggested interpretation, then in the incriminating and exculpating conditions the interviewer gently insisted that the child was wrong and urged the child to "tell the truth." The interviewer's tone remained friendly and encouraging, never angry, but became more insistent. In the incriminating condition, the interviewer urged the child to admit the janitor had been playing ("You don't need to protect him. I know he was being naughty. I just want you to tell the truth"). In the exculpating condition, the interviewer urged the child to admit the janitor had been cleaning ("I happen to know that the janitor is a very nice man. He would never do anything naughty. He was just joking with you while he cleaned... So come on and tell me the truth").

Factual Questions. Next, the interviewer asked the child 17 specific, yes/no questions about the janitor's actions. Of the questions, seven pertained to actions consistent with cleaning (e.g., "Did he wipe the doll's face?"); eight questions pertained to actions consistent with playing (e.g., "Did he talk to the doll?"), and two

were neutral. In both the Playing and the Cleaning conditions, seven of the actions in question did occur and ten did not occur.⁴

Interpretive Questions. Finally, the interviewer asked 6 questions concerning the child's interpretation of the janitor's actions. Each question asked whether the janitor was intending to clean or play when he performed specific actions (e.g., "When he sprayed water on the doll, was he playing or doing his job?").

Parental Questioning. After the second interview, the child and the experimenter played a game for a few minutes, and then the parent was brought into the experimental room and left alone with the child. The parent had been coached before entering the room to greet the child and say something like the following: "I understand that while you were in here by yourself, a cleaning man came in. They said he did something to the toys. I would like you to tell me what he did." The parent then used a series of open-ended probes to draw out the story (e.g., "What exactly did he do?" "What else did he do?" "Why did he do that?"). Finally, relying on a prepared script, the parent asked the same six interpretive questions that were asked at the end of the first two interviews. This completed the experimental session.

Approximately 1 week after the experimental session, parents administered a follow-up questionnaire to their child. Parents recorded their child's responses and the date of administration, then returned the questionnaire by mail. Follow-up questionnaires were received for 82% of subjects. The questionnaire began with a series of statements designed to remind the child of the experiment. When the child acknowledged remembering the event, the parent then asked nine questions concerning the storybook they had read at the beginning of the session. Next, the parent asked if the child remembered the cleaning man who had entered the room and asked the same 17 factual questions followed by the same six interpretive questions asked during the earlier interviews.

Dependent Measures

To determine the effects of the suggestive interviews on children's accounts of what the janitor did, we relied on three types of dependent measures: (a) ratings of whether the child's descriptions of the janitor's actions were colored toward cleaning or playing; (b) the child's responses to the six interpretive questions, and (c) the child's responses to the 17 factual questions.

RESULTS

Children's Open-Ended Descriptions of the Janitor's Actions

Children responded to open-ended questions about what the janitor had done at four points: (1) at the beginning of the first ("boss") interview, (2) near the end

⁴Of the questions, ten concerned actions of the janitor that varied in the cleaning and playing scenarios, hence the correct answer was dependent on which scenario the child saw.

of the first interview, (3) at the beginning of the second (experimenter) interview, and (4) at the beginning of the third (parent) interview. Children's videotaped accounts of the janitor's actions were observed and rated on a 5-point scale (1 = strongly colored toward cleaning, 2 = colored a bit toward cleaning, 3 = neutral/unclear, 4 = colored a bit toward playing, 5 = strongly colored toward playing). In order to keep the raters blind to the janitor's actions, they viewed videotapes only of the segments of the interview in which the child was responding to open-ended questions.⁵

These ratings showed that children were powerfully influenced by the suggestive questioning. Children questioned in a neutral manner consistently gave accurate accounts of what they had seen, but those questioned in a suggestive manner gave accounts that, over time, became consistent with the interviewers' suggestions regardless of what they had seen.⁶ Mean ratings of children's open-ended responses across the four open-ended interview sessions (displayed in Fig. 1), were analyzed using a multivariate analysis of variance (MANOVA) contrasting janitor's action (cleaned or played) \times interview style (incriminating, neutral, or exculpating) \times interview session. Significant main effects were found for janitor's action [$F(1,50) = 98.96, p < .001$], interview style [$F(2,50) = 24.0, p < .001$], and interview session [$F(3,150) = 4.47, p < .005$]. Significant two-way interactions were found between janitor's action and interview style [$F(2,50) = 3.80, p < .05$], and between interview style and interview session [$F(6,150) = 2.22, p < .05$]. No other interactions were significant.

The main effect of janitor's action arose because, collapsing across interview sessions, children who saw the janitor play described his actions in a manner colored more toward playing ($M = 3.72$) than children who saw the janitor clean ($M = 1.81$). This effect was moderated by interview style: the difference between children who saw the janitor play and those who saw him clean was larger in the neutral condition (play $M = 3.92$; clean $M = 1.40$) than in the incriminating (play $M = 4.56$; clean $M = 2.74$) or exculpating conditions (play $M = 2.63$; clean $M = 1.34$).

The main effect of interview session was the result of a slight shift in the children's descriptions, across successive sessions, toward playing (first open-ended questions, $M = 2.79$; second, $M = 2.81$; third, $M = 3.00$; fourth, $M = 3.25$).

The main effect of interview style arose because, overall, children who heard incriminating interviews described the janitor's actions in a manner colored more toward playing ($M = 3.93$) than those who had neutral interviews ($M = 2.71$), whereas children who had exculpating interviews described the janitor's actions in a manner more colored toward cleaning ($M = 2.21$) than those who had neutral interviews.

Of particular interest is the significant interaction between interview style and interview session. Examination of Fig. 1 shows that this interaction was driven by a shift, over time, in the descriptions of children who were exposed to suggestions that were contrary to what they saw the janitor do. Among children who saw the

⁵To test the reliability of the ratings, a portion of the interviews was rescored by a second rater. The rate of interrater agreement was high ($r = .89$).

⁶There were no differences on any of the main dependent variables between children in the play and secret conditions, so these two conditions were combined for the analyses.

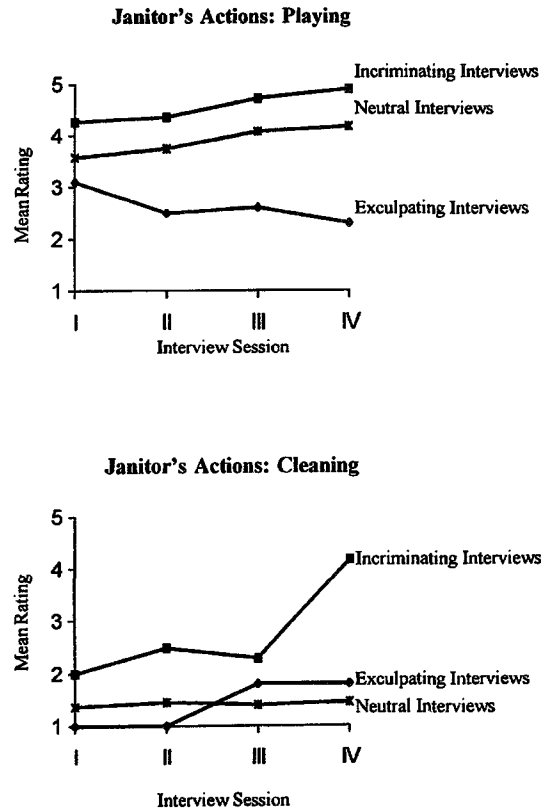


Fig. 1. Mean ratings of children's responses to open-ended questions, showing whether child's account indicated that the janitor was playing or cleaning, as a function of interviewer style and interview session, when the janitor had been playing (top panel) or cleaning (bottom panel). Rating (of child's account): 1 = strongly colored toward cleaning; 2 = colored a bit toward cleaning; 3 = neutral/unclear; 4 = colored a bit toward playing; 5 = strongly colored toward playing. Interview session: I = beginning of interview by boss; II = end of interview by boss; III = interview by experimenter; IV = interview by parent.

janitor play, those interviewed in a neutral or incriminating manner consistently gave descriptions colored toward playing, but those interviewed in an exculpating manner initially gave descriptions colored slightly toward playing and thereafter gave descriptions that shifted progressively toward cleaning. *Post hoc* comparisons (Scheffe) for these children revealed that the exculpating condition did not differ

from the other two conditions in the first interview session, but did differ from them in the second, third and fourth sessions (all p 's < .05).

Among children who saw the janitor clean, the pattern was similar. Those interviewed in a neutral or exculpating manner consistently gave descriptions colored toward cleaning, while those interviewed in an incriminating manner shifted over time from descriptions colored toward cleaning to descriptions colored toward playing. *Post hoc* comparisons indicated, however, that the incriminating condition did not differ significantly from the other two conditions until the fourth open-ended interview session (at the beginning of the first parent interview). Thus, it appears that the incriminating suggestion took hold more slowly than the exculpating suggestion.

Nevertheless, by the time the parents interviewed their children, the effects of either incriminating or exculpating interviews were dramatic. Among children who had previously been interviewed in a suggestive manner, those who had seen the janitor clean and those who had seen him play could not be distinguished based on their responses to their parents' open-ended questions. Children exposed to suggestions that were contrary to what they had actually seen gave their parents an erroneous account of what the janitor had done.

Children's Responses to Interpretive Questions

At the end of each interview, children were asked whether the janitor was cleaning or playing when he performed 6 different actions. The same six questions were asked by the parent during the 1-week follow-up interview. To each question children could respond "cleaning," "playing," "both cleaning and playing," or "I don't know." Thus, the maximum number of "cleaning" or "playing" responses was six. Figure 2 presents the mean number of "playing" responses of children in each condition in each of the four interviews (by boss, experimenter, parent, and parent one week later).⁷

In all four interviews children in the incriminating condition gave high rates of playing responses and children in the exculpating condition gave low rates of playing responses regardless of whether they had actually seen the janitor clean or play; children in the neutral condition gave high or low rates of playing responses depending on whether they had actually seen the janitor play or clean.

These findings were analyzed using a multivariate analysis of variance (MANOVA) contrasting janitor's action (cleaned or played) \times interview style (incriminating, neutral, or exculpating) \times interview session (boss, experimenter, parent, parent follow-up). Significant main effects were found for janitor's action [$F(1,36) = 8.91, p < .01$] and interview style [$F(2,36) = 45.66, p < .001$], but not for interview session [$F(3,108) = .16, ns$]. A significant two-way interaction was found between janitor's action and interview style [$F(2,36) = 5.55, p < .01$]. No other main or interaction effects were significant.

⁷Because the number of cleaning and playing responses are interdependent, results for mean number of cleaning responses parallel those in Fig. 2.

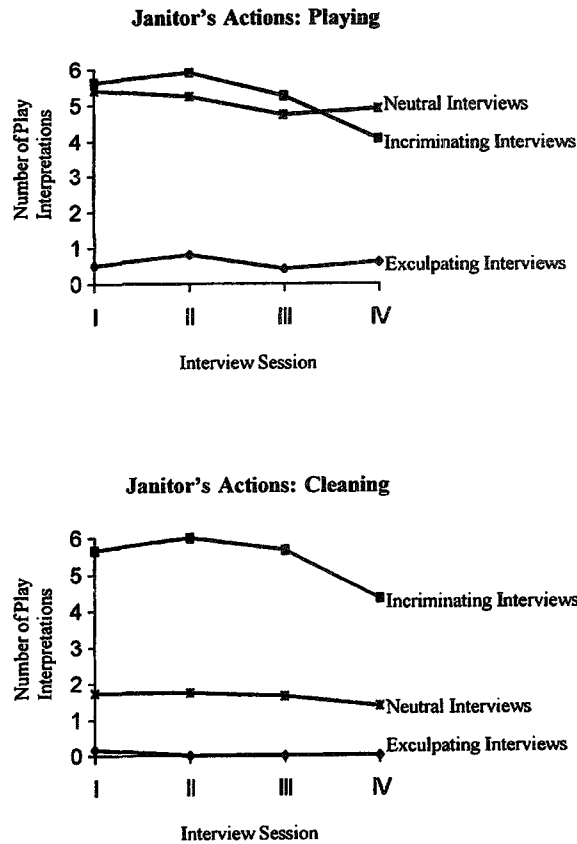


Fig. 2. Mean number of the janitor's actions that were interpreted as playing (rather than cleaning) as a function of interview session and interviewer style, when the janitor had been playing (top panel) or cleaning (bottom panel). Interview session: I = beginning of interview by boss; II = end of interview by boss; III = interview by experimenter; IV = interview by parent.

The two-way interaction arose because children in the neutral interview condition responded in a manner consistent with the janitor's actions whereas those in the incriminating condition gave high rates of playing responses and those in the exculpating condition gave low rates of playing responses. *Post hoc* comparison (Scheffe ranges tests) revealed that children who saw the janitor play and those who saw him clean differed significantly in the number of play responses they gave in the neutral condition (saw play, $M = 5.4$; saw clean, $M = 2.1$, $p < .05$), but not

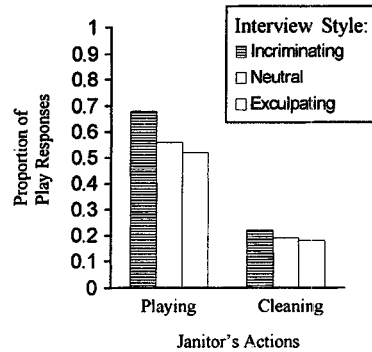


Fig. 3. Proportion of children's responses to factual questions that were consistent with the janitor having played (rather than cleaned) as a function interview style and janitor's action.

in the incriminating condition (saw play, $M = 5.6$; saw clean, $M = 5.6$, n.s.) or the exculpating condition (saw play, $M = 0.1$; saw clean, $M = 0.7$, n.s.). Thus, by the end of the first biased interview and continuing thereafter, across all four interviews, suggestive questioning exerted a powerful influence on responses to interpretive questions.

Children's Answers to Factual Questions

Children responded to the 17 factual questions about the janitor's actions at three points: at the end of the first interview, at the end of the second interview, and during the 1-week follow-up interview.⁸ Responses were scored as either consistent with cleaning (answering "yes" to one of the seven questions about whether the janitor cleaned, e.g., "Did he dust the table?," or "no" to one of the eight questions about whether the janitor played, e.g., "Did he talk to the doll?") or consistent with playing (the reverse).

Figure 3 shows the proportion of answers that were consistent with playing (i.e., the number of answers consistent with playing divided by the total number of answers) broken down by janitor's action and interview style.⁹ These data do not take into account whether the answers were correct or incorrect, only whether they affirmed actions consistent with cleaning or playing.

Children's answers to the factual questions generally corresponded to what they had seen the janitor do. The proportion of answers consistent with playing

⁸There was no effect of janitor's action, interview style or interview session on the overall number of "yes" ($M = 5.37$), "no" ($M = 10.68$), or "don't know" ($M = 0.1$) responses to the 17 questions.

⁹Because MANOVAs revealed no main effects or interactions involving interview session, data were averaged across the three interview sessions; because there were no significant differences between the play and secret conditions on any measure, these conditions were combined.

was higher among children who saw the janitor play ($M = .59$) than among those who saw him clean [$M = .19$, $F(1,50) = 183.47$, $p < .0001$]. But children's answers to the factual questions were also influenced by interview style [$F(2,50) = 5.74$, $p < .01$]. The proportion of playing responses was higher in the incriminating condition ($M = .52$), than in the exculpating ($M = .39$) or neutral ($M = .38$) conditions.¹⁰ In other words, the incriminating interviews increased the proportion of answers consistent with playing (relative to the neutral interviews), but the exculpating interviews did not decrease the proportion of answers consistent with playing.

Another way to look at children's suggestibility is to examine the factual errors they made. For most of the factual questions, the correct answer varied depending on whether the child had seen the janitor play or clean. Accordingly, separate analyses of error rate were performed for children in the playing and cleaning conditions. Among children who saw the janitor play, errors biased toward cleaning (i.e., mistakenly affirming one of seven cleaning actions or mistakenly denying one of five playing actions) were most frequent in the exculpating condition (where the interviewers suggested the janitor had cleaned, $M = 4.43$), followed by the neutral condition ($M = 3.72$), and were least frequent in the incriminating condition [$M = 2.36$, $F(2,30) = 3.38$, $p < .05$.]¹¹

Among children who saw the janitor clean, errors consistent with playing (either mistakenly affirming one of eight playing actions or mistakenly denying one of six cleaning actions) showed a slight trend in the direction of suggestion (incriminating, $M = 2.06$; neutral, $M = 1.82$; exculpatory, $M = 1.67$), but the effect was not statistically significant [$F(2,20) = 1.43$, n.s.]

Effects of the Janitor's Request for Secrecy

There were no significant differences between the play and secret conditions on any of the major dependent measures. Children quickly overcame their initial hesitancy to reveal the janitor's secret after the interviewer stated that she knew the janitor had been there and asked the child to recount his actions. However, in the neutral interview condition, children who were asked to keep the janitor's secret did show some initial hesitancy about revealing to both the "boss" and the experimenter that he had played.

The very first statement each child made about the janitor's actions to the boss and experimenter was scored on a 3-point scale (1 = consistent with cleaning; 2 = neutral/unclear, 3 = consistent with playing). A MANOVA on these scores, contrasting janitor's action (clean, play, or secret) \times interview style (incriminating, neutral, or exculpating) \times interview session (boss or interviewer), revealed main effects for janitor's action, [$F(1,47) = 35.17$, $p < .01$; clean, $M = 1.28$; play, $M = 2.39$; secret, $M = 2.13$] and interview style [$F(2,47) = 15.22$, $p < .01$; incriminating,

¹⁰Planned comparisons indicated that the incriminating condition differed significantly from both the neutral condition [$F(1,50) = 4.75$, $p < .05$], and the exculpating condition [$F(1,50) = 6.99$, $p < .05$], but the latter two conditions did not differ significantly from each other.

¹¹Planned comparisons indicated that significant differences existed between the exculpating and incriminating conditions [$F(1,30) = 6.48$, $p < .05$].

$M = 2.39$; neutral, $M = 1.52$; exculpating, $M = 1.56$] and a janitor's action by interview style interaction [$F(3,47) = 3.43, p < .02$]. This interaction arises from the greater effect of the request for secrecy in the neutral condition (clean, $M = 1.23$; play, $M = 3.83$; secret, $M = 1.66$) than the incriminating condition (clean, $M = 1.58$; play, $M = 2.83$; secret, $M = 2.8$) or the exculpating condition (clean, $M = 1.08$; play, $M = 1.75$; secret, $M = 2.0$). *Post hoc* comparison of means indicated significant differences between the play and secret conditions only when children were exposed to neutral interviews (both p 's $< .05$).

In sum, when the interviewer made no initial suggestion about the janitor's behavior but simply asked an open-ended question, children were likely to comply with the janitor's request for secrecy. If, on the other hand, the interviewer made an incriminating or exculpating suggestion at the beginning of the interview, children made no attempt to protect the janitor. There were no effects of the request for secrecy on children's subsequent statements; even children who received the neutral interview did not persist in denying that the janitor had played with the toys.

DISCUSSION

This study demonstrates that suggestive interviews can dramatically alter children's reports and recollections of a personal experience with an adult. During open-ended questioning, when children were asked to explain in their own words what the janitor had done, those who were interviewed in a neutral, nonsuggestive manner gave accurate descriptions: if they had seen the janitor play with the toys their descriptions indicated (to blind raters) that he had played; if they saw him clean the toys, their descriptions indicated that he had cleaned. By contrast, children interviewed in a suggestive manner provided descriptions that were accurate only when the interviewers' suggestions were consistent with what the child actually saw. When the interviewer's suggestions were contrary to what the children saw, their descriptions shifted over time in the direction of suggestion. By the time the children told their parents what had happened, their descriptions were consistent with the interviewers' suggestions regardless of what they had actually observed. Children who saw the janitor play with the toys, but were interviewed in an "exculpatory" manner, described the event to their parents in a manner suggesting that the janitor had been cleaning; those who saw the janitor clean the toys, but were interviewed in an "incriminating" manner, described the event to their parents in a manner suggesting that the janitor had been playing.

The effects of suggestion on children's responses to the interpretive questions were more immediate and even more dramatic. The children were asked directly whether the janitor had been cleaning or playing when he performed six actions (e.g., touched the doll, moved the truck, hit the drums). Children who were interviewed in a neutral manner interpreted the janitor's actions correctly—that is, they interpreted his actions as playing when they had seen him play and as cleaning when they had seen him clean. By contrast, children who were interviewed in a suggestive manner interpreted the janitor's actions correctly only when the interviewers' suggestions were consistent with what the janitor had done. When the in-

interviewers' suggestions were contrary to what the janitor had done, children's responses to the interpretive questions were consistent with the suggestion and were contrary to what they had seen the janitor do. This effect appeared after the first suggestive interview (by an unfamiliar adult) and persisted during interviews by a familiar adult and the child's parent, and during a follow-up interview by the parent 1 week later. It appears, then, that the suggestive interviews changed children's interpretation of the janitor's actions immediately, dramatically, and with lasting effects. These effects were not only powerful, they were consistent across subjects. *All* of the children who received a suggestion contrary to what the janitor had done responded to the interpretive questions in a manner that was far more consistent with the suggestion than with what they actually saw.

Why did children so readily substitute the interviewers' account of the janitor's actions for their own? We believe that they simply lacked confidence in their own interpretation of the janitor's behavior. Children undoubtedly look to adults constantly for cues about how to interpret social behavior, and it would be unusual for a 5- or 6-year-old to gainsay an adult in such matters. When two authoritative adults confidently suggested that the janitor was really playing (or cleaning), the children may have simply accepted that the adults were right.

Demand characteristics may also have played a role in inducing the children initially to go along with the interviewers' suggestions. But it appears that the children rapidly came to believe that these suggestions were true. If children were merely responding to demand characteristics during the suggestive interviews, then they should have reverted back to the truth when their parents asked them what happened. They did not. Indeed, children's responses to open-ended questions during the parent interview tended to be the most strongly tainted by the interviewers' suggestions.

Children had no reason to mislead their parents about what happened. It is implausible, for example, that children would give their parents an inaccurate account merely for the sake of consistency. From the child's point of view, the parents did not know what the child had told the interviewers and the interviewers did not know what the child told the parents. Thus, there was no need to "stick with the story." Even if the children suspected that the adults would compare notes (and we have no reason to think that they did), it seems doubtful that the children would have felt compelled to lie to their parents for the sake of consistency. Indeed, previous research has shown that children who are repeatedly asked about the same event often feel pressure to change their previous answers rather than stick to them, perhaps because they infer that the first answer was unacceptable (Ceci & Bruck, 1993). Moreover, since the stories of children exposed to suggestive interviews had shifted over time, it would have been unclear which story they should stick with in any event.

Thus, it seems likely that children's beliefs about the janitor, and perhaps their long-term memory of the event, were altered by the suggestive interviews. This alteration could have come about through several mechanisms. The suggested interpretation may have overwritten the children's initial evaluations of the event, may have provided an interpretation to children who had not yet formed their own assessment, may have rendered children's initial evaluation inaccessible, or become

indistinguishable from their memories of the original event (see Lepore, 1991 for detailed discussion of these processes).

The suggestive interviews also influenced children's recall of specific factual details of the janitor's actions, although these effects were more subtle. Most of the children answered most of the questions correctly, and the overall rate of error was not significantly higher in the suggestive interview conditions than in the neutral interview conditions. The influence of suggestion was detectable, however, in an analysis of the proportion of responses consistent with the playing and cleaning scenarios and in an analysis of the direction of the factual errors (i.e., whether the mistakes were consistent with the playing or cleaning scenario).

It is not surprising that the suggestive interviews exerted a stronger effect on children's interpretations of the janitor's actions than on their recall of specific details of his actions. The main thrust of the suggestions offered in the interviews concerned how the janitor's actions should be interpreted (e.g., "Was he cleaning or playing when he touched the doll?") rather than what the janitor's actions were ("Did he touch the doll?"). Indeed, the interviewers did not directly suggest that the janitor had performed (or not performed) the specific acts that were the subject of the factual questions. The suggestions went to the janitor's motives and intent; they proposed an explanation and justification for his actions and provided a framework within which to understand them. Thus, the subtle distortions observed in children's factual recall probably resulted from the tendency of memory to shift in a manner that makes it consistent with schematic representations of events (Bartlett, 1932) rather than the direct implantation of facts through suggestion. In other words, children who adopted the interviewers' suggestion that the janitor was playing (or cleaning) were influenced, when responding to the factual questions, by a playing (or cleaning) schema. Consequently, their answers to factual questions were shaded in the direction of the suggested scenario even though the interviewers' suggestions did not include the specific details covered by the factual questions.

These memory distortions highlight the problems associated with including evaluative information about a suspect when questioning a child (e.g., telling a child that a suspect is a bad and dangerous person or a nice and friendly person). When the child is questioned in a manner that implies a particular interpretation (e.g., a good touch or bad touch), there is a danger that the child will adopt the interviewer's interpretation of the person or event in question even when it is inaccurate, and that memory for factual details will thereafter be shaded in a manner consistent with this interpretation. Schematic effects of this sort may help explain the bizarre memories that children sometimes report during child abuse investigations. Repeated interrogation about the actions of the accused may fix in the child's mind the notion that the accused is a "bad man," evoking memory distortions consistent with the child's "bad man" schema. Through this process, suggestive questioning might evoke false memories that go beyond the specific facts that are suggested.

Arguably, the exculpatory interviews had a stronger effect on children's reports than the incriminating interviews. When responding to open-ended questions, children who saw the janitor play adopted the exculpatory suggestion (that he was really cleaning) more quickly than those who saw him clean adopted the incriminating suggestion (that he was really playing). Children in the exculpatory condition made

factual errors consistent with the cleaning scenario more often than children in the incriminating condition made factual errors consistent with the playing scenario. The apparent strength of the exculpating suggestion may simply be due to its consistency with standard expectations about janitors. Children may more readily have adopted the suggestion of the cleaning janitor because it is easier to convince children to adopt a belief that is consistent with their pre-existing schemas or expectations.

Recently, investigators have shown that children's stereotypes or beliefs about a person can be induced either before (Leichtman & Ceci, 1995) or after (Lepore & SESCO, 1994) a child interacts with that person. These stereotypes color children's perceptions and recollections of the person's character and behavior. While previous studies (Leichtman & Ceci, 1995; Lepore & SESCO, 1994) have induced negative stereotypes, the present study suggests that both positive and negative stereotypes may be created, depending on the predilection of the interviewer to incriminate or exculpate. What a child comes to believe and say about an event may depend on which interpretation is suggested first (as well as other factors, such as the persistence of the suggestion, its coherence, and its consistency with pre-existing schemas).

The janitor's request for secrecy had relatively little effect on children's responses. Among children in the neutral interrogation condition, the request for secrecy caused some hesitancy and equivocation in responses to the very first question about the janitor. But this was the only detectable effect of the request for secrecy on any measure. Among children in the suggestive interrogation conditions, the request for secrecy had no effect at all. Children probably gave little weight to the janitor's request because he was a stranger to whom they owed no loyalty. Indeed, they had no expectation that they would ever see him again. Whether a request for secrecy would be more influential if it came from a familiar person, with whom the child had an ongoing relationship, would be an interesting issue for future research.

Although the findings of this study may seem, at first glance, to conflict sharply with those of some previous studies, a close examination of the different experimental procedures helps to reconcile the findings and points the way to a broader understanding of children's susceptibility to suggestion. Some researchers have found that relatively few children adopted implausible factual suggestions embedded in isolated leading questions, and have, on that basis, concluded that children are not particularly susceptible to suggestion during post-event interrogations (e.g., Goodman et al., 1990, 1991). The present study does not contradict these findings, but it does suggest that the conclusion drawn from them is overly broad. Isolated leading questions that suggest implausible facts probably have little influence on children's answers to questions about whether those facts are really true. But a line of interrogation that persistently suggests a coherent interpretation of an event that is susceptible to more than one interpretation can have a dramatic and powerful effect on children's descriptions and interpretation of the event, as the present study shows.

It appears, then, that whether children are susceptible to suggestion during post-event interrogation depends on the nature of the underlying event, children's

pre-existing schemas about the event, the nature of the interrogation, and the manner in which the effects of suggestion are assessed. Children are probably more susceptible to suggestion when the underlying event is ambiguous, or at least subject to alternative interpretations. Suggestions may be more readily adopted when they are consistent with the child's pre-existing schemas and expectations about an event than when they are not. Children are undoubtedly more susceptible to persistent suggestions that offer a coherent, plausible view of an event, than to implausible suggestions embedded in isolated leading questions. And the effects of suggestion may be more readily apparent when children describe the event in their own words or answer questions asking for their overall interpretation of an ambiguous event, than when they respond to questions about factual details. Consequently, it is probably far easier to induce a child to say (and believe) that an adult was "playing" with her genitals during bath time, when he was really just cleaning, than to get the child to say an adult touched her genitals when he did not. Given children's expectations about bath time, however, it may also be easier to induce a child to say (and believe) that an adult was "cleaning" his genitals during the bath, when he was really playing, than to get the child to say an adult was "playing" when he was really cleaning.

The present study highlights the need to use care when interviewing children and interpreting their statements. Children who were interviewed in a neutral, non-leading manner consistently gave accurate accounts of what the janitor had done. This finding shows that 5- and 6-year-old children can provide reliable information about a complex event when they are interviewed properly. On the other hand, the study also shows that a suggestive interview can alter children's subsequent accounts of the event. This finding underscores the need to be cautious and circumspect when interpreting the statements of children who have previously been questioned in a biased, suggestive manner. No matter how skillfully an investigator questions a child, the story that emerges could well be inaccurate if the child has previously been interviewed in a suggestive manner.

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