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3. Coming to grips with children's suggestibility.

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4

Coming to Grips With Children's Suggestibility

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When children are asked to describe what they have seen, heard, or experienced, they bring their limitations along with their capabilities to the task. Adults who rely on children's answers must come to grips with the imperfections and inadequacies, as well as the merits and utility, of children's reports. Some research findings appear to condemn children's reports, others champion their competencies. One way to understand this inconsistency is to align the studies along a continuum.

At one end of the continuum, researchers seek to understand the effects of combining multiple, suggestive techniques into a single protocol that is often repeated over several interviews with very young children between the ages of 3 and 5. These paradigms illustrate the very young child's social, cognitive, and memory deficiencies. In the worst case scenarios, preschool children are repeatedly questioned in an accusatory context with highly misleading and suppositional questions, peer pressure, and selective reinforcement. These scenarios are thought to resemble the highly publicized preschool molestation cases that occasionally headline the newspapers. Often there is persistent questioning about fictitious events despite children's denials. Predictably, these studies find the most dramatic and disconcerting suggestibility effects. Their results have enlightened practitioners and policymakers regarding the dangers of certain techniques, many of which can be avoided without much loss of valuable information.

At the other end of the continuum are studies that seek to understand how to promote children's optimal performance. Relying on techniques that maximize independent reporting by elementary school-aged children, these studies highlight how accurate and meaningful older children's reports can be under the best of circumstances. The emphasis is on open-ended and direct, nonleading questions about the central aspects of experienced events. Also at this end of the continuum are studies designed to test techniques thought to improve children's reports. Results reveal some areas of malleability, indicating the potential for improving children's resistance to suggestion. Results also underscore the limits on modifying children's performance.

In between these two endpoints are studies highlighting the complexity of the interview process and the interacting factors that contribute to children's suggestibility and resistance. This is where practitioners out in the field often function, in between the worst and best case scenarios. They try to balance the need to avoid distortion with the need to elicit as much trustworthy detailed information as necessary for immediate decision making.

In this chapter, we explore findings from both ends of the continuum. First, we summarize results of the basic research on the developmental limitations that contribute to children's suggestibility. Then, we examine conditions for maximizing and minimizing suggestibility effects. Our goal is to create a review that is useful to researchers planning future studies and to practitioners making case-by-case decisions.

DEVELOPMENTAL DIFFERENCES AND THE SUGGESTIBILITY OF YOUNG CHILDREN

Basic research in developmental psychology has revealed three factors affecting young children that make them particularly vulnerable to suggestive interviewing. First, young children find free recall considerably more difficult than cued-recall and recognition. This makes it challenging to elicit information from young children without asking specific questions designed to assist retrieval. Second, young children are particularly deferential to adults' beliefs. Adults may convey their own view of events to children through the questions they ask. Third, young children have special difficulty when identifying the sources of their beliefs. A child who has experienced an event and has received false information about that event may subsequently confuse memories of the event with memories of the false information. In combination, these characteristics increase the risk that suggestive interviewing techniques will elicit false reports. Recent studies have produced some dramatic suggestibility effects. The re-

search cautions that interviewing preschool children is problematic, and it suggests ways in which interviews could be less suggestive.

An understanding of these basic ideas about children's cognitive and social development, however, also cautions against the wholesale application of suggestibility research to investigative interviews in real cases of child abuse. If younger children are much more suggestible than older children, older children are much less suggestible than younger children. It is therefore hazardous to generalize too quickly from research on preschool children to school-age children. The fact that children are generally deferential to adults emphasizes the danger of telling (rather than asking) young children what occurred, either through coaching or asking questions that presuppose the suggested information. Finally, children's source monitoring difficulties highlight the distinctive suggestiveness of questions that encourage children to form mental pictures of nonevents. Although some real-world questioning reflects recent research techniques, and thus exploits preschool children's greatest vulnerabilities, both real-world questioning and research must be scrutinized closely before concluding that a child's testimony in a particular case has been tainted.

Young Children's Recall Is Deficient

To remember information, one must be able to encode, retain, and retrieve that information. Not surprisingly, young children often encode less information than older children, and retain less information over time (Brainerd, Reyna, Howe, & Kingma, 1990; Howe, 1991). Particularly striking, however, is young children's difficulty with retrieval. Recognition is easier than free recall because recognition tasks facilitate retrieval. Basic research in developmental psychology has established that young children are able to recognize much that they cannot recall, and their free recall is less complete than older children's (Jones, Swift, & Johnson, 1988; List, 1986; Todd & Perlmutter, 1980). In a series of studies examining children's memories for pediatric examinations, Ornstein and his colleagues found that "it was necessary to rely more fully on yes–no, specific probes when dealing with the 3-year-olds, because these children generated relatively little information in response to the open-ended questions" (Ornstein, Gordon, & Larus, 1992, p. 58; see also Baker-Ward, Gordon, Ornstein, Larus, & Clubb, 1993; Gordon, Ornstein, Clubb, Nida, & Baker-Ward, 1991; Ornstein, Baker-Ward, Myers, Principe, & Gordon, 1995).

Young children's responses to free recall questions may be incomplete for nonmnemonic reasons as well. Like adults, children's productive vocabulary lags behind their receptive vocabulary (Flavell, Miller, & Miller, 1993), making it difficult for them to describe events in response to free recall questions but possible for them to understand recognition questions

about those events. Children may have particular difficulty in describing sexual experiences, given their limited sexual vocabulary (Schor & Sivan, 1989). If the topic is embarrassing or frightening, children may be reluctant to disclose information (Lyon, 1999). Finally, young children may not understand what information is important or expected, again requiring more guidance from the interviewer (Fivush, 1993).

Although recognition questions increase the completeness of reports, they reduce accuracy, and preschool children err at a much higher rate than older children (Brady, Poole, Warren, & Jones, 1999; Garven, Wood, Malpass, & Shaw, 1998; Ornstein, Baker-Ward, Myers, Principe, & Gordon, 1995; Peterson & Biggs, 1997; Poole & Lindsay, 1996, 1997). On a recognition task, the interviewer provides the information and the witness merely verifies whether the statement is true or false. This type of question increases the risk that the witness will answer "yes, that happened," when the witness is not sure whether the event occurred or not. Moreover, recognition questions may suggest to the witness what the interviewer believes. If the witness trusts the interviewer, the suggestions may become part of the witness' narrative of the event.

Young Children Trust Adults' Knowledge

Young children may not appreciate that adult interviewers do not know the answers to their questions. During the preschool years, children acquire a great deal of understanding about the way in which knowledge and beliefs are acquired (Flavell & Miller, 1998). Although 3-year-old children recognize that perception and knowledge are related, they appear to lack an appreciation of the necessity of perception when attributing knowledge (Montgomery & Miller, 1997). Other factors, such as the status and desires of the individual, may influence young children's decisions about whether an individual knows some fact (Lyon, 1994; Montgomery & Miller, 1997; Pillow & Weed, 1997; Weed, 1991). Preschool children are also acquiring an understanding that some beliefs are true and others false, and that one can hold a belief with more or less certainty (Moore & Furrow, 1991).

However, one fact about knowledge is well understood at an early age: Adults know more than children (Taylor, Cartwright, & Bowden, 1991). This fact, coupled with their limited understanding of whether and why others know things, increases young children's susceptibility to suggestive questioning by adults. Preschool children are more suggestible when questioned by an adult than when questioned by a child (Ceci, Ross, & Toglia, 1987). Older children are less susceptible to the status of adults as questioners; Kwock and Winer (1986) found that third graders, but not sixth graders, were more susceptible to the misleading implications of questions asked by adults rather than by peers.

As an interviewer moves beyond free recall in questioning a young child, he or she risks suggesting to the child what the interviewer believes occurred, and young children are particularly likely to accept the suggestion as true. To obtain complete but also accurate reports from young children, interviewers must carefully monitor their questions to elicit more of what the child remembers without imposing the interviewer's beliefs.

Young Children Find It Difficult to Identify the Sources of Their Beliefs

It is bad enough for a child to provide false information by acquiescing to a suggestive question; it is worse for that child to accept the false information as true and to incorporate it into her subsequent memory for the event. The danger that suggested information will be incorporated into the child's memory is raised if the child cannot distinguish between memory of the original event and memory of the suggestive questions.

Related to preschool children's growing awareness of how knowledge in general is acquired is a developing ability to identify the sources of their own beliefs. Memory for the sources of one's beliefs is known as *source monitoring*, and a number of researchers have found dramatic age differences in preschool children's source monitoring abilities as assessed through simple tasks. For example, Gopnik and Graf (1988) showed 3- to 5-year-olds drawers with various objects inside, and either told the child what was inside, showed the child the contents, or gave the child a clue as to the contents. Immediately afterwards, the researchers confirmed that the child knew the contents, and then asked the child to identify how he or she knew. Whereas 5-year-olds were almost 100% correct in identifying the correct source of their knowledge, 3-year-olds rated barely above chance.

Other researchers have found similarly dramatic age differences among preschool children on elementary source monitoring tasks (O'Neill & Gopnik, 1991; Woolley & Bruell, 1995). Although some studies have found age differences in source monitoring among older children (Ackil & Zaragoza, 1995; Foley & Johnson, 1985; Lindsay, Johnson, & Kwon, 1991), "developmental differences in source monitoring appear and disappear as a function of the difficulty of the discrimination subjects have to make" (Ackil & Zaragoza, 1995, p. 79). Researchers can construct extremely difficult tasks that confuse even the brightest child, and source monitoring errors contribute to the suggestibility of adults as well as children (e.g., Zaragoza & Lane, 1994). Nevertheless, young children's source monitoring errors are the most profound.

Several studies have documented relations between individual children's source monitoring abilities and suggestibility (Leichtman & Morse,

1997; Welch-Ross, in press; Welch-Ross, Decidue, & Miller, 1997). Young children's difficulty in identifying the sources of their beliefs may make them vulnerable to false beliefs induced by suggestive questioning.

Implications of Developmental Differences for Suggestibility Research

At first blush, a review of the basics of developmental differences in memory and understanding of the origins of knowledge paints a depressing picture of young children's capacity as witnesses. Young preschool children have difficulty with simple tasks, making their performance as eyewitnesses a daunting prospect. Asking a free recall question of a 3-year-old may yield little or no useful information. Moving to a specific question can suggest details to the impressionable and deferential young child. Subsequent interviewers may hear more about what previous interviewers asked than about what the child actually remembers.

However, children develop quickly. The developmental differences between 3-year-olds and 5-year-olds and between preschoolers and older children may be cause for alarm when questioning the very young child, but cause for cautious optimism when questioning a school-age child. Furthermore, the interviewer who is aware of preschool children's special vulnerabilities is armed with knowledge that can help to avoid the serious mistakes in interviewing emulated by the most popular suggestibility research. Finally, a good understanding of the basic factors underlying preschool children's difficulties enables the professional to identify differences between her less-than-perfect interviews and the interviews used by suggestibility researchers.

MAXIMIZING SUGGESTIBILITY EFFECTS

Accentuating Young Children's Deference to Adult Knowledge

Because young children are often less than forthcoming when asked for free recall, an interviewer may be forced to ask more specific questions in order to make necessary decisions about safety and protection in a given case. Young children's lack of understanding of the origins of knowledge and the uncertainty of beliefs, however, obligates the interviewer to think twice before asking specific questions that too often elicit guessing and deference to the adult's suppositions.

Close attention to the types of questions asked in child eyewitness research reveals a promising middle ground between free recall and recog-

nition. Several studies with young children have found that interviewers can move to open-ended wh- questions and increase the completeness of reports without decreasing accuracy (Hamond & Fivush, 1991; Hudson, 1990; Poole & Lindsay, 1995). "Open-ended" questions ask for a narrative (or multiword) response. Wh- questions begin with *who, what, where, when, why,* and *how*. Wh- questions avoid implying that the interviewer prefers a particular response and make it easier for the child to respond "I don't know" (Peterson, Dowden, & Tobin, in press). Furthermore, although repeating yes–no questions may suggest to the child that her first answer was incorrect, researchers have found that one can repeat wh-questions within an interview (Poole & White, 1991, 1993) and across repeated interviews (see reviews in Fivush & Schwarzmueller, 1995; Lyon, in press; Poole & White, 1995) without decreasing the accuracy of young children's reports.

When interviewers are given biased information about an event and left to formulate their own questions, they tend to ask yes–no questions for which the desired response is *yes* (White, Leichtman, & Ceci, 1997). These questions will be suggestive to the extent that young children exhibit a tendency to respond *yes*. Although some research has found that young children tend to respond *yes* to yes–no questions (Fay, 1975; Peterson, Dowden, & Tobin, in press), several studies have failed to find consistent *yes* biases (Brady, Poole, Warren, & Jones, 1999; Clubb & Follmer, 1993, described in Baker-Ward, Ornstein, Gordon, Follmer, & Clubb, 1995), and in a study examining children's memory for traumatic injury and its aftermath, Peterson and Biggs (1997) found what appeared to be a *no* bias among younger children. Moreover, children are more accurate in responding to yes–no questions when the questions concern central details (Peterson & Bell, 1996), when the questions regard actions rather than descriptions of clothes or objects (Peterson, Dowden, & Tobin, in press), and when asked about details that violate their expectations regarding scripted events (Ornstein et al., 1995).

However, there are ways of making recognition questions more suggestive. Recognition questions can be phrased as tag questions (e.g., "He hurt you, *didn't he*?"). Tag questions change recognition questions into statements that are followed by requests for affirmation, making clear the interviewer's beliefs. Tag questions disproportionately impair younger children's performance (Cassel, Roebers, & Bjorklund, 1996; Greenstock & Pipe, 1996). Recognition questions can also be phrased as negative term questions (e.g., "*Didn't* he hurt you?" in which "didn't" is the negative term). Studies comprised of both children and adults have found that negative term questions increase error (Binet, 1900, as reported in Whipple, 1915; Lippmann & Wendriner, 1906, as reported in Bruck, Ceci, & Hembrooke, 1998; Loftus & Zanni, 1975; but see Dale, Loftus, & Rathbun, 1978).

Suppositional questions are considered to be even worse. Information is presumed without an opportunity to affirm or deny (e.g., "When he hurt you, was he happy or mad?"). A subtle form of suppositional question involves using a definite rather than an indefinite article (e.g., "Did you see *the* stop sign" vs. "Did you see *a* stop sign"), which has been shown to influence 4-year-old children's responses (Dale, Loftus, & Rathbun, 1978).

The most often cited suggestibility studies rely on tag questions, negative term questions, and suppositional questions to elicit false reports. Lepore and Sesco (1994) found that repeating yes–no questions about potentially sexual activities did not elicit errors among 4- to 6-year-old children, but labeling every action as *bad* and asking suppositional, tag, and negative term questions resulted in false narratives that were subsequently repeated in response to yes–no questions.

In a study of 3- to 4-year-olds' memories for a visit to their school by Sam Stone (Leichtman & Ceci, 1995), four suggestive interviews were employed, comprised of forced-choice suppositional questions (e.g., "Did Sam Stone rip the book with his hands, or did he use scissors?") that not only told participants that Sam Stone had committed misdeeds that never occurred but assisted the preschool children in developing elaborated narratives of how he had done so.

In another study, Bruck and her colleagues (Bruck, Ceci, Francouer, & Barr, 1995) examined efforts to convince 4- and 5-year-olds that someone other than their pediatrician had given them a shot 11 months previously. The researchers employed two suggestive interviews including forced-choice suppositional questions like those used in the Sam Stone study (e.g., "When Laurie [the RA] gave you the shot, was your mom or your dad with you?"). Other aspects of the interviews were more blunt. The interviewer told the child that the research assistant "gives kids their shots. She gave you your shot. Laurie said that she remembered when she gave you your shot . . ." The interviewer thus asserted the suggested information as a rule, as a specific fact, and as a fact remembered by the alleged actor.

Suggestibility studies such as these demonstrate that young children are vulnerable to suppositional questions, tag questions, and negative term questions. These types of questions clearly convey the adults' interpretation of events to the impressionable young child. On the other hand, open-ended, wh- questions may present few dangers, and yes–no questions fall in between, depending on wording and context. Yes–no questions increase error, and these errors will increase over time, if only because memory decays. However, yes–no questions vary in suggestiveness. If cautiously phrased, yes–no questions need not necessarily imply a particular view of the facts ("You said Bill was there, *did he talk to you?* What did he say?"). Dramatic demonstrations of false narratives have relied on much more coercive questioning techniques.

Increasing Young Children's Source Monitoring Difficulties

Suggestibility studies producing large effects have often capitalized on young children's vulnerability to source monitoring errors. One effective method for increasing source confusion is to elicit visualization of the suggested event (Hyman & Pentland, 1996). Ceci, Loftus, Leichtman, and Bruck (1994) repeatedly told 3- to 6-year-old children that fictitious events had occurred and assisted them in forming mental images of the events, including details regarding what they were wearing, who they were with, and how they would have felt. Children's false assents increased over the course of 11 interviews. In contrast, Ceci, Huffman, Smith, and Loftus (1994) told 3- to 6-year-old children that some of the queried events had occurred, and simply asked them to "think real hard" about each event. Children's false assents did not increase over time.[1] More recently, Bruck, Hembrooke, and Ceci (1997) have elicited elaborate false narratives from preschool children describing a man coming to their school and stealing food through multiple interviews using "peer pressure, visualization techniques, repeating misinformation, and selective reinforcement" (p. 204).

Other techniques in suggestibility research may have similarly increased children's source monitoring errors. In the Sam Stone study (Leichtman & Ceci, 1995), children were presented with physical evidence of Sam's fictitious misdeeds in the first two interviews: They were shown a ripped book and a soiled teddy bear. In Bruck and colleagues' inoculation study (Bruck et al., 1995), the suggestive interviewers pointed to pictures of the research assistant and the pediatrician when misidentifying who had performed the various checkup procedures.

A series of studies by Poole and Lindsay (1995, 1996, 1997) directly examined young children's ability to monitor their sources of information about a science demonstration. Their research is worthy of careful examination because it highlights the importance of considering both how source monitoring errors are created and the magnitude of age differences in source-monitoring performance.

In the original study (Poole & Lindsay, 1995), 3- to 4-year-olds played with "Mr. Science," who conducted four demonstrations. Three months after the visit, each child's parents read a storybook to the child about the visit, once per day, for 3 consecutive days. The book used the child's name throughout, contained accurate contextual information about the child's visit (e.g., the building within which the visit occurred), and described

[1]Curiously, a large percentage of children falsely assented to fictitious events in the first interview, which may have been attributable to the fact that the interviewer read a statement about the event off a card and then asked the child whether that event had ever occurred.

four demonstrations, two that had occurred and two that had not. All children were falsely told in the stories that Mr. Science had wiped their faces with a wet wipe that "tasted yucky." Although the parents were informed that the stories included demonstrations that had not occurred, they were not told what their child had experienced. One day after the third reading of the suggestive story, children were interviewed about their visit to Mr. Science.

The researchers found that suggested material from the stories appeared in the children's reports at high rates. Almost half of the children reported a suggested event in response to the open-ended questions, and answered *yes* to 82% of the yes–no questions about the suggested events. Half of the children responded *yes* when asked if Mr. Science put something yucky in their mouth. Moreover, children performed poorly on source monitoring questions that explicitly asked if they had experienced the events and whether they appeared in the stories.

Although some commentators have referred to the stories in the Mr. Science study as "subtle suggestions" (Ceci & Bruck, 1995, p. 218), several aspects of the study made the manipulation particularly suggestive. First, the suggestions were presented in the form of statements rather than questions. The researchers emphasized that "parents did not explicitly tell the children that the suggested events had occurred" (Poole & Lindsay, 1995, p. 132), yet the descriptions parents read explicitly referred to the child as experiencing nonevents (e.g., "Mr. Science wiped [child's name]'s hands and face with a wet wipe"), and placed the nonevents in a context that indicated the other details were accurate. Second, the interview took place shortly after the last repetition of the suggestive story, and 3 months after the actual event, so that memories of the false information would be more accessible than memories of the event. Third, children who denied that events had occurred were nevertheless asked to provide details, which may have suggested over the course of questioning that the interviewer was asking about the stories rather than the event. Indeed, the authors warned that "the children's spontaneous comments during the interview, and their responses to informal questioning after the interview, indicated that in some cases they could discriminate source but were confused about the intent of the interview or did not interpret the questions as requiring a distinction between information from different sources" (Poole & Lindsay, 1995, p. 145).

Given young children's difficulty in making simple source monitoring judgments, it is notable that the subjects in Poole and Lindsay's (1995) original study were 3 to 4 years of age. If children believed that the story was accurately depicting their visit to Mr. Science, they would have difficulty in subsequently identifying if their beliefs about what occurred were based on the event or the story. In their follow-up work, Poole and

Lindsay (1996, 1997) examined older children's ability to discriminate between events that actually occurred and events in the stories, and if the children's errors persisted in a subsequent interview. Studying 3- to 8-year-old children ($N = 114$), the researchers used the same procedure as in the original study, except that they added an additional interview, which occurred 1 month after the suggestive stories and 4 months after the original event.

There were vast age differences in the children's ability to identify the sources of their knowledge about Mr. Science when asked yes–no questions. As in the original study, the 3- to 4-year-olds claimed, both in the first interview following the stories and at the 1-month follow-up interview, that just over half of the suggested events had actually occurred. At both interviews, the 5- to 6-year-olds erred at about half the rate as the younger children, and the 7- to 8-year-olds erred at half the rate of the 5- to 6-year-olds. On the question regarding putting something yucky in the child's mouth, almost half of the 3- to 4-year-olds claimed, at both the initial and follow-up interviews, that it actually occurred. In contrast, 13% of the 7- to 8-year-olds asserted this belief at the first interview, and only 3% at the follow-up interview. The authors concluded that "[t]here was a marked age trend in children's ability to identify the book as the source of a nonexperienced event they had previously reported" (Poole & Lindsay, 1997).

With respect to free recall, Poole and Lindsay (1997, 1998) emphasized the lack of age differences in children's tendency to report false details. However, although the absolute number of false details did not decrease with age, there was a linear decrease with age in the proportion of free recall that was suggested by the stories. Whereas up to 20% of the 3- to 4-year-olds' free recall was suggested material, it comprised only 6% of the 8-year-olds' recall. In the 1-month follow-up interview, up to 16% of the 3- to 4-year-olds' recall was suggested material, compared to 2% of the 8-year-olds' recall. The reason that the older children produced as many suggested details as younger children, is that their free recall was much better overall; indeed, the 8-year-olds' free recall contained about seven times as many details as the 3- to 4-year-olds'. Despite the repetition of the suggestive stories, only the 3- to 4-year-olds' recall accuracy fell below 90% in the first interview following the stories and in the 1-month follow-up interview.

The Mr. Science studies document serious difficulties among very young children in identifying sources of information, and prove that young children can be prompted to provide narratives about personally experienced events containing large amounts of false information. At the same time, the studies reiterate important distinctions between telling children that false events have occurred and asking children about such

events. Moreover, they support the conclusion that there are considerable age differences in vulnerability to suggestive interviewing. Finally, the studies indicate how interviewers might attempt to reduce suggestiveness, an issue we discuss next.

REDUCING CHILDREN'S SUGGESTIBILITY

In the remainder of this chapter, we review investigations of the conditions under which suggestibility effects might be minimized. First, we examine interventions designed to facilitate independent reporting and free recall, thus reducing the need for leading follow-up questions later. Next, we examine ways to decrease children's deference to adult knowledge by avoiding and rewording suggestive questions, as well as warning children to anticipate misleading questions, and not to expect help answering questions from adults. Then attempts to reduce children's perceptions of the status differential between children and adults are reviewed. Next, ideas for reducing source monitoring errors are discussed. Finally, efforts to increase children's awareness of the unique task demands of the forensic context are reviewed. The research begins to illuminate the conditions under which certain procedures are beneficial, ineffective, or detrimental.

Maximizing Free Recall

Supplying Retrieval Strategies. As children mature they show increasing ability to generate and use retrieval strategies to help them search their own memories more independently, efficiently, and fully (see Schneider & Pressley, 1989, for a review). Younger children often fail to generate retrieval strategies even though they are capable of using the strategies when supplied externally. Moreover, children often fail to use strategies successfully because they do not know when and how to apply the strategies they generate (Flavell, 1981).

Two experimental interviewing techniques were developed based on the premise that adults can help children to generate and/or employ retrieval strategies during the forensic interview. In studies of the revised cognitive interview, children were asked to retell a staged event several times, once after context reinstatement, once in reverse order, and once from a perspective other than their own (Fisher & McCauley, 1995; Saywitz, Geiselman, & Bornstein, 1992). These strategies were designed to help the child find alternate routes to activate additional details in memory (Tulving, 1974). Studies have revealed positive results (Fisher, Brennan, & McCauley, chap. 11, this volume; Fisher & McCauley, 1995; Saywitz et al., 1992) when comparing the cognitive interview to standard interview techniques (better recall without increased error), or no differ-

ences when compared to a group receiving motivating instructions (Memon, Cronin, Eaves, & Bull, 1996, Experiment 2). A number of researchers found certain components of the interview, such as the change perspective task, difficult for children and recommend that it be reserved for adults until there is further study of its effects with children (Fisher & McCauley, 1995; Saywitz & Geiselman, 1998).

Another interview technique, narrative elaboration, utilizes pictorial prompts as retrieval aids to remind children to report the kind of information and the level of detail that might not be reported spontaneously (Saywitz & Snyder, 1996; Saywitz, Snyder, & Lamphear, 1996). Before the interview, children practice using four picture cards to remind themselves to report about categories of information represented by a drawing on each card: the participants, setting, actions, and conversations. After free recall, children are shown each card and asked, "Does this card remind you to tell something else?" In three separate studies of interviews about staged events, children, 4 to 5 and 7 to 11 years of age, responded to the cards with additional accurate details, and without increased error in comparison to control groups (Dorado & Saywitz, in press; Saywitz & Snyder, 1996; Saywitz et al., 1996).

These studies suggest that school-age children can benefit from being provided with retrieval strategies during forensic-type interviews about experienced events. However, we do not yet completely understand the effects of these retrieval strategies when children who deny experiencing a certain fictitious event are further questioned about it with suggestive questions, despite their denials (Camparo et al., 1999). Moreover, even when there is physical evidence that the events in question have occurred, the additional detail children report is not error free. As productivity increases, individual children make errors they would not otherwise have made, even if the majority of the new information is accurate. We do not know whether such errors can be minimized by simple efforts, such as warning children not to speculate. The necessary studies are still to be conducted; however, supplying children with nonbiased retrieval strategies appears to be a promising avenue for future research.

Practice Exercises. One approach for improving free recall is the use of practice recall tasks prior to questioning children about the events under investigation (Lamb, Sternberg, & Esplin, 1995; Saywitz et al., 1996; Yuille, Hunter, Joffe, & Zaparniuk, 1993). The purpose of the practice is to model the format of the interview to insure that children understand what is expected of them—independent production of as much, or little, information as they recall with the least use of specific questions.

Several studies have included conditions in which children are asked to practice remembering past events before they take a memory test for a

staged event. Generally researchers extoll the benefits of practice (Dorado & Saywitz, in press; Lamb et al., 1994, 1995; McCauley & Fisher, 1996; Memon et al., 1996; Saywitz et al., 1992, Experiment 2; Saywitz & Snyder, 1996; Saywitz, Snyder, & Nathanson, 1999; Sternberg et al., 1997). Despite the enthusiasm with which practice narratives have been received by researchers, there has been little research comparing the efficacy of different practice tasks for the forensic interview. In some protocols (e.g., stepwise interview), children are asked to describe one or more remote prior life events (e.g., birthday party, field trip, or doctor visit). Other studies have used "here and now" descriptions of the room followed by recall of recent events, such as what a child did from the time she awoke to the time she arrived at the interviewer's office (Dorado & Saywitz, in press), or routine events like how she brushes her teeth (McCauley & Fisher, 1996). Others have used a social interaction contrived by the interviewer as a practice event. In one case an interviewer feigned losing and searching for a favorite pen (Dorado & Saywitz, in press); in another case a waiting room incident with a confederate was used (Saywitz et al., 1992).[2] To establish practical guidelines, studies comparing the utility of these practice tasks are still needed, but findings thus far are encouraging.

Completeness Instructions. Studies have shown that instructing adults to be more complete fosters better free recall (Geiselman, 1988). In numerous studies, instructions, warnings, and clarifications have also improved children's performance (e.g., Lovett & Pillow, 1995). Several researchers have included completeness instructions in their paradigms (McCauley & Fisher, 1996; Saywitz, Goodman, Nicholas, & Moan, 1991; Saywitz et al., 1992; Sternberg, Lamb, Esplin, & Baradaran, 1999). Several of the most widely used clinical protocols recommend such instructions. The stepwise interview suggests stating: "The more you tell me about what happened, the more I will understand what happened." (Yuille et al., 1993). However, instructions that promote completeness have also been criticized for fear that they promote speculation, fostering the perception that more is better.

In one study, instructions were independently assessed (i.e., "Tell as much as you can remember about what really happened, even the little things, without guessing or making anything up.") with no measurable benefit or liability when presented once, in the beginning of the interview, with school-age children (Saywitz & Snyder, 1996). Yet, given that the insufficiency of children's free recall is a central problem for interviewers, there remains a need to investigate the conditions under which such in-

[2]The advantage of a contrived event to which the interviewer is privy is that the interviewer can provide feedback, correct mistakes, and caution children not to guess.

structions (along with warnings not to speculate) might be useful or deleterious in the recall of staged and fictitious events.

Reducing Deference to Adult Knowledge

Structuring the Questions. The research reviewed indicates that interviewer presuppositions can be conveyed to impressionable young children through questions. One response by practitioners and researchers has been the notion that interview questions should be structured to begin with open-ended questions that are typically referred to as nonleading (e.g., "Is there something I can help you with today?"; e.g., Bull, 1995; Lamb, Sternberg, & Esplin, 1995; Sternberg et al., 1999). Interviewers are cautioned to phrase additional questions in the most nonleading form possible, progressing towards more specific questions with caution. The protocol designed by Lamb and his colleagues is the most well researched of this type, especially with actual child witnesses (Sternberg et al., 1999; Sternberg et al., 1997).

Avoiding Suggestive Questions. The research reviewed in the first half of this chapter portrayed questions along a continuum of suggestiveness. Questions with the greatest power of suggestion include accusatory questions, tag questions, negative term insertion questions, and suppositional questions (as defined on pp. 91–92 of this chapter). Studies indicate that interviewers can reduce suggestibility effects by avoiding these question types altogether.

Rewording Suggestive Questions. The research reviewed also suggests that wh- questions are far less potent vehicles for suggestion than the other question types mentioned, although studies have not fully explored whether interviews limited to wh- questions would be sufficient for decision making in most cases. Future research on the utility of wh-questions could be pivotal for establishing practical guidelines. In the meantime, however, suggestibility effects are likely to be further reduced by rephrasing yes–no and multiple-choice questions into wh- form whenever possible (e.g., "Did he hit you?" becomes "*What* did he do with his hands?"; "You said he wore a jacket, was it *red or blue*?" becomes "You said he wore a jacket, *what* color was it?").

As previously discussed, if yes–no questions are deemed necessary, thoughtful wording is required, for instance, tag, negative term insertion, and suppositional questions can be avoided with minimal loss of valuable information. Answers to yes–no questions are less accurate but more complete, children's accuracy on yes–no questions substantially improves with age, and accuracy is higher on questions regarding central details. Therefore, asking older children yes–no questions about central informa-

tion may not increase error rates and these question types should continue to be investigated, especially with regard to recall for falsely suggested events.

No Help Instructions. As a way of reducing children's deference to adult knowledge, researchers have studied the effects of informing children that the adult is not knowledgeable and cannot help the child answer the question. In one study, 4- and 5-year-olds instructed not to expect help answering questions made fewer errors than children not so instructed (Mulder & Vrij, 1996). An effort to combine this instruction with other techniques in two studies of older children (8- to 10-year-olds) also showed positive results in recall for staged events (e.g, Saywitz & Moan-Hardie, 1994; Saywitz et al., 1999). In one study, 4- to 8-year-olds who were informed that the interviewer did not remember the stimulus story well were only half as susceptible to misinformation as children who were told the interviewer knew the story "real well" (Toglia, Ross, Ceci, & Hembrooke, 1992).

Additional research would be useful to test whether children's perceptions of adult authority status do in fact change as a result of instructions. However, the research thus far is promising. With increased understanding that the child is the expert about what happened, not the adult, there is a better chance that children will orient interviewers more fully, spontaneously providing the details necessary for someone with little prior information. Comments implying the interviewer already knows what happened ("Your mom told me. . . .") imply the child only need convey partial information, increasing the need for follow-up questions that invite suggestion.

Warnings. Another factor contributing to children's suggestibility is the interviewer's tendency to repeat questions and the child's tendency to change her answer in deference to the adult, perhaps assuming that the first answer was unacceptable (e.g., Fivush & Schwarzmueller, 1995). Sometimes repetition may occur because children's responses are vague or meager, necessitating clarification and returning to a previous point. Other instances may be due to interviewer forgetfulness. In an effort to reduce the adverse effects of repeated questions, researchers have warned 5- and 7-year-olds that some questions might be repeated. In one study this warning had no effect (Memon & Vartoukian, 1996). However, the authors speculated that the warning's failure could be due to the fact that it was general and presented only once (before free recall). They suggested future studies to test warning children immediately before specific questions are asked. In addition, children may need to be given a rationale for why the interviewer might need to repeat the question (e.g., "I would like

to ask you this question again because I am confused. This does not mean you need to change your answer. Just tell what you really remember."). To date, however, there is no evidence that children change their behavior in response to warnings about repeated questions.

Similarly, researchers have tried to curb the adverse effects of leading questions by warning children that some questions might mislead. Researchers have suggested to children that questions might be tricky (Warren, Hulse-Trotter, & Tubbs, 1991) or that the interviewer might put her guess into the question but could not know what really happened if she were not present (Saywitz & Moan-Hardie, Experiment 2, 1994). Results showed a reduction (not elimination) of suggestibility effects, suggesting that warning school-age children about misleading questions may be one promising method of curtailing the adverse side effects of specific questions with older children.

Interviewer Demeanor. The interviewer's demeanor can convey support or intimidation. Interviewers are often criticized for going too far in either direction. The argument is made that excessive support invites acquiescence to leading questions out of a desire to please; too much intimidation causes similar results, but out of fear. However, the available studies indicate that moderate support leads to greater resistance, not acquiescence, to misleading questions.

In one study, 3-year-olds demonstrated better memory and greater resistance to suggestion in a supportive social atmosphere than in a neutral one (Goodman, Bottoms, Schwartz-Kenney, & Rudy, 1991). In two other studies, social support in the form of rapport development, relaxed body language, eye contact, smiles, and general emotional approval, given without regard for the accuracy or inaccuracy of children's responses, was compared to an intimidating environment, low in social support, where there was no attempt to establish rapport, little eye contact or smiling, and a formal body posture was adopted (Carter, Bottoms, & Levine, 1996; Davis & Bottoms, 1998). Social support was associated with greater resistance to misleading questions even for 5- and 7-year-olds, although support had no effect on free recall or responses to questions about abuse. (Abuse-related questions were answered quite accurately in both conditions.) The authors speculated that children in the supportive condition felt "less anxious, more empowered, and in turn, less intimated and better able to resist misleading questions" (Carter et al., 1996, p. 351).

We have much to learn about the best methods for conveying support free of bias and suggestion. For example, an interviewer can be supportive by recognizing a child's effort without endorsing the truth of a child's allegations (e.g., "Thank you for trying so hard to listen carefully and tell me what you have heard or seen."). Continued study of the effects of de-

meanor on children's willingness or ability to talk about genuine painful, unpleasant experiences may be key to reducing the use of leading questions as a way of extracting information from reluctant children. Further research is needed to elucidate the effects of demeanor on reports of fictitious events suggested to children.

Rapport Development. There is little research on the effects of time spent developing rapport before the interview. Yet most research paradigms and interview protocols involve some effort in this endeavor (e.g., Lamb et al., 1995; Sternberg et al., 1999). Interviewers are often cautioned that too little or too much rapport development is deleterious, but some illusive, poorly defined level of rapport is optimal. The experimental literature is practically silent on this fundamental question.

Greater rapport could lower children's perceptions of the interviewer's authority status and facilitate the assertiveness necessary to resist and contradict the interviewer's suggestions (i.e., telling the adult his or her assumption is wrong). If rapport leads to greater trust, it might facilitate discovery of both genuine victimization and false allegation. Greater rapport might help the child overcome reluctance due to shame, self-consciousness, embarrassment, and mistrust. Or, when the potential for coaching is high, greater rapport might promote honesty and disclosure of information related to manipulation of the child's statement.

Studies of maltreated children suggest they are at heightened risk for interpersonal problems when relating to interviewers. These children often experience decreased feelings of safety and trust in new situations and/or they possess disorganized attachment patterns from early experiences of maltreatment, neglect, and multiple placements that influence future interactions (Aber, Allen, Carlson, & Cicchetti, 1989; Barnett, Ganiban, & Cicchetti, 1992; Cicchetti, 1987; Cicchetti & Toth, 1995; Crittenden, 1985; Egeland & Sroufe, 1981; Eltz, Shirk, & Sarlin, 1995; Shirk, 1988). Therefore, there seems to be added reason to study the effects of rapport on memory and suggestibility within this population.

Addressing Source Monitoring Error

As discussed in the first half of this chapter, certain techniques blur the line between original events and postevent information, exacerbating suggestibility. Studies have demonstrated the problems of adults telling, rather than asking, young children, and the problems of adults confronting young children with physical evidence of fictitious events, especially when combined with selective reinforcement, peer pressure, and repeti-

tion. If these procedures are avoided, the potential for distortion in young children's reports is diminished.

It is not unreasonable to hypothesize that older children might benefit from efforts to help them distinguish among sources of information at the end of the interview. Researchers have found considerable age effects in source monitoring among children 5 years of age and over because they were significantly better able than children 4 years of age and younger to say "no" to events that did not occur but were suggested to them by their parents. Similarly, children older than 5 years of age were better able to identify their parents' suggestion as the source of their memory for a nonexperienced event than younger children (Poole & Lindsay, 1997). In addition, the researchers speculated that some of the errors were due to children's misunderstanding that they were to report knowledge rather than direct memory of the events.

These data introduce the possibility that children 5 years of age and older might benefit from efforts to help them distinguish between whether they personally experienced an event (saw or felt something) or whether they heard about a plausible event from some other source (parent, previous interviewer) by using source monitoring questions at the end of the interview. Similarly, it may be useful to give older children explicit instructions regarding the task under investigation, that is, report only what they personally saw, heard, and felt, not information from other sources. More research is necessary to determine the value of such interventions, but findings to date suggest it is an avenue worth pursuing.

Imagery. Studies with young children suggest that when they are repeatedly asked to visualize the details of experiencing a fictitious event, their reports can become contaminated (Ceci, Huffman, et al., 1994; Ceci, Loftus, et al., 1994). When instructed to repeatedly visualize an event, preschoolers may become confused and lose the ability to distinguish the source of their memory—the original event or the suggested and imagined event. Conversely, researchers also have found that some people spontaneously visualize during recall as a way to enhance retrieval. Probing a witness' image of the event can elicit further information (e.g., Bekerian, Dennett, Hill, & Hitchcock, 1992).

Studies of imagery instructions show complex results. There is some evidence that imagery effects may be positive for certain aspects of events but not others (Suengas & Johnson, 1995). Studies have not examined the effects of imagery instructions in conjunction with methods to help children clarify the source of the information. Additional research is needed to sort out the effects of imagery instructions if used only once, or only for certain aspects of the image, with effective warnings, and with fictitious

events.[3] The extent to which visualization leads to errors likely depends on the age of the child and whether the interviewer provides false details for the child to visualize.

Increasing Awareness of Task Demands

Given young children's fragmented and limited knowledge of the legal system, and their lack of experience, it is not surprising that they are unaware of many of the implicit demands of the forensic interview. Armed with greater awareness of the task demands, children may be less suggestible and more reliable. Greater awareness might be achieved through explicit instructions prior to the interview.

Preinterview Instructions. Sometimes interviewers instruct children in ways that increase children's awareness of the imperative for witnesses to tell the truth (e.g., "Tell the truth. Do not make anything up. Do not guess."). The protocol developed by Lamb and his colleagues calls for a "truth-lie ceremony" at the beginning of the interview that allows children to demonstrate their understanding of the difference between telling the truth and lying (Sternberg et al., 1999). In one study, Huffman, Warren, and Larson (1999) found positive effects on recall when interviewers engaged young children in an extended discussion of the meaning of lying prior to an interview about a staged event.[4] After discussing truth-telling and lying with the interviewer, children may have become a bit more careful in their reporting. Saywitz and Moan-Hardie (1994) found positive effects of an intervention that included reading a short story to school-age children prior to the interview. The story demonstrated the pitfalls of providing false information to authority figures by acquiescence to

[3]Context reinstatement is a well documented memory aid with adults (e.g., Tulving & Thomson, 1973) that has been incorporated into the cognitive interview (Fisher & Geiselman, 1992). It is important to distinguish between the context reinstatement task used in studies of the cognitive interview and the kinds of visualization instructions that have been employed in studies findings dramatic suggestibility effects. In the revised cognitive interview, older children (not preschoolers) are instructed to "picture" the environment of the event in their minds as a way of reinstating the original context before giving free recall for the event (e.g., "Close your eyes and draw a picture in your head, like a video, of what the room looked like." McCauley & Fisher, 1996). The use of this technique as a component of the cognitive interview has not led to an increase in error among school-age children in comparison to control groups (McCauley & Fisher, 1995; Memon et al., 1996; Saywitz et al., 1992).

[4]Larson (1999) was unable to replicate the finding that the extended truth-lie discussion was superior to standard truth-lie discussion that simulate the type of inquiry typical in an investigation. Rather, Larson found that children participating in a standard truth-lie discussion performed better than children participating in an extended truth-lie discussion. However, Larson did not include a control group with no discussion of truth-telling and lying, hence it is unclear whether standard truth-lie discussion improves recall performance.

adult suggestion. It was followed by discussion of the reasons for and against acquiescence by the child in the story. A third study found positive effects of asking 5- and 6-year-olds to promise to tell the truth (Lyon & Dorado, 1999). While waiting for an experimenter to return, children were greeted by a confederate who engaged them in play with an attractive toy, and then told them that they might get in trouble if anyone knew they had played. When directly asked by the experimenter whether they had played with the toy, most children denied doing so, but when another group of children were first asked to promise to tell the truth, most admitting playing.

Findings to date support the value of informing children of their truth-telling obligations. Still, future research is needed to determine the best methods of discussing issues of truth-telling and lying with children of various ages and to determine the effects when secrets or threats not to tell are involved. Moreover, these methods should not confuse children or adversely influence the credibility of children who have difficulty engaging in truth–lie conversations.

Some researchers have suggested that another potentially helpful instruction might include one that promotes children's motivation and effort (e.g., "Do your best; try your hardest."). Children may not always recognize that the forensic interview is a situation demanding high levels of motivation and effort. Impulsive or careless answering might heighten rates of acquiescence. In fact, children who have experienced traumatic events and losses may show symptoms of depression or posttraumatic stress, which could include indifference, hopelessness, helplessness, fatigue, avoidance, and poor concentration, that could affect effort and motivation. They may benefit more from these instructions than other children. On the other hand, instructions that increase effort could also promote speculation.

Compared with a no-instructions scenario, motivating instructions appeared to be associated with more complete free recall of a staged event for both preschoolers and school-age children (Dorado & Saywitz, in press; Saywitz & Snyder, 1996; Saywitz et al., 1996). However, we were unable to find systematic studies of the effects of motivating instructions when children were asked to elaborate on fictitious events or when they were asked suggestive questions. Hence further study is warranted to understand the drawbacks as well as benefits of such instructions.

When adults are instructed that "I don't know" is an acceptable response, they make fewer mistakes than when they do not receive these instructions (Warnick & Sanders, 1980). Children may not realize that admitting lack of knowledge is an acceptable, or even desirable, response in the forensic interview. Initially, Moston (1987) examined the effects of giving children explicit permission to say "I don't know" before a memory

interview, but found no effects. Reexamining this question more recently, three sets of researchers increased 4- through 10-year-olds' use of "I don't know" in response to misleading and unanswerable questions. These researchers reminded children of the instruction during the interview, and/or gave children practice and feedback answering unanswerable questions with "I don't know" (Howie & O'Neill, 1996; Mulder & Vrij, 1996; Saywitz & Moan-Hardie, 1994, Experiment 1).

Unfortunately, however, the children in these studies did not discriminate well among question types, and correct responses to some types of questions diminished in favor of the "I don't know" response, albeit errors did not increase. Perhaps, children became more cautious about guessing, even in situations where they would have been correct. Hence, the value of suggesting to children that they admit lack of knowledge was limited by this unintended side effect.

One follow-up study with school-age children reveals a possibility for eliminating the problem (Saywitz & Moan-Hardie, 1994, Experiment II). Researchers added a warning ("If you don't know the answer, say you do not know, *but if you know the answer, tell the answer.*") that was repeated with feedback throughout a series of practice questions. In this study, the unintended side effect was eliminated with older children. (There were no preschoolers in the study.) However, other variables were manipulated as well, requiring further research on this question.

FUTURE DIRECTIONS

A productive agenda for applied research acknowledges the limitations of children's testimony at the same time that it seeks to promote children's abilities to the greatest extent possible. Revisiting our proposed continuum, the research reviewed in the first half of this chapter identifies factors that produce and exacerbate young children's suggestibility. Findings warn us to distinguish carefully between telling children that false events have occurred and asking them about events. Results underscore the dangers of tag, negative term insertion, and suppositional questions. Studies distinguish between the serious vulnerabilities of 3- to 5-year-olds and the diminished suggestibility effects with older children.

In the second half of this chapter, the research reviewed investigates conditions hypothesized to ameliorate suggestibility effects. Although a number of procedures appear to be promising mechanisms for minimizing suggestibility, their pitfalls have yet to be fully examined, and some procedures need to be avoided altogether under certain conditions. Reducing suggestibility will be a complicated and multidimensional issue

with continued research to revise and refine, to eradicate unwanted side effects, and to test effects when fictitious events are suggested to children.

What guidance does the existing research offer interviewers who seek to eliminate distortion and concurrently elicit as much trustworthy information possible? Despite recent advances, research dictates that practical decisions in the field will still be made on the basis of imperfect information. Practitioners can not cede these difficult decisions to researchers in laboratories. In each case, interviewers need to weigh the merits and drawbacks of the options available to them at a given point in time. This may involve balancing the sufficiency of information obtained by free recall, the need for additional information, and the costs of additional error in a given situation. Decisions will depend not only on research findings, but also situational factors (e.g., corroborating evidence, risk of imminent danger). Logistical, fiscal, historical, social, and ethical considerations are also important. To promote more fully informed decisions, the decision-making process itself may need to become a target of systematic investigation in the next generation of research. Ultimately, questions regarding the definition of "proper" and "improper" interviewing techniques will be answered by researchers, practitioners, and policymakers who combine efforts to understand both sides of children's suggestibility.

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