

Questions and Answers: The Credibility of Child Witnesses in the Context of Specific Questioning Techniques

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Once children enter the legal system, as victims or witnesses, they are interviewed multiple times by multiple people before giving testimony in court (Myers, 1987). Interestingly, "common sense" beliefs about the effects of repeated interviews on children's memories and/or reports of what transpired lead to contradictory conclusions. On the one hand, it is argued that repeatedly recalling an event helps children (and adults) to consolidate their memory of what occurred, leading to a more durable memory. On the other hand, repeatedly recalling an event can lead children (and adults) to begin to reconstruct what happened, adding details that make sense but that may not be accurate. Which position reflects what actually happens over the course of repeated interviews is critical, not only for theoretical reasons, but for interpreting and evaluating children's testimony in applied forensic situations.

Two recent reviews of the literature (Fivush & SchwarzmueLLer, 1995; Poole & White, 1995) concur that simply asking children to recall an event again and again does not have a detrimental effect on their memory reports, and may even have beneficial effects under certain conditions. Indeed, everything we know about memory from experimental research indicates that repeatedly recalling an event is a form of rehearsal that helps buffer against forgetting (see Brainerd & Ornstein, 1991; Schwartz & Reisberg, 1991, for reviews). However, forensic interviews may not be as

benign as most of the interviews conducted in experimental studies. When police, social workers, and lawyers interview children for legal purposes, they must often go beyond asking the child for free recall of what happened, and pose specific, and sometimes leading questions.

In this chapter, we extend the previous reviews of the effects of repeated interviews on children's memories by considering forensic issues more completely. In the first section, we summarize the general effects of repeated questions both within the same interview and across interviews. Because this literature has been reviewed in detail so recently (Fivush & SchwarzmueLLer, 1995; Poole & White, 1995), we provide only a brief overview here. We then turn to the question of what happens over longer periods of time. Children often testify months or years after the actual event has occurred; it is therefore important to consider how and what young children are able to recall over long delays. The first two sections focus on children's recall in the absence of misleading or suggestive questions. Most of this research examines children's responses to general, open-ended questions, such as "What happened . . . ?" and "Tell me about. . . ." or nonleading questions such as "What did the person look like?" and "What was the person wearing?" In the third section, we consider the effects of repeatedly interviewing children in more suggestive or coercive ways, for example, by providing erroneous information in the question or by cajoling the child to respond. Finally, we examine the effects of specific question types on children's memory reports. In particular, differences between questions that ask the child to recall a specific piece of information, and yes-no questions, questions that only require the child to acquiesce or deny a piece of information are compared. Throughout, we draw implications for forensic interviewing, and at the end, we provide some overall guidelines for forensic interviewing that emerge from the research.

REPEATED QUESTIONS

When children are interviewed for legal purposes, they are often asked the same questions over and over (Myers, 1987). When this occurs within the same interview, it is considered a "check" on the child's accuracy; if the child gives a different answer to the same question asked again during the same interview, it is often assumed that the child's testimony is not accurate. But, as several theorists have pointed out, this may be more a function of the social demands of the situation than of the child's memory. When children are asked the same question again, they may assume that the adult interviewer did not approve of the first answer given (Moston, 1987; Rose & Blank, 1974). Especially in situations in which children may feel uncomfortable, as in being interviewed by a relative stranger about an

upsetting event, children may change their answers in order to please the adult (Siegel, Waters, & Dinwiddy, 1988). Thus, it is important to bear in mind when interpreting the literature on suggestibility that children's acceptance of erroneous information may be more a matter of changing their report as a function of the social context, than a change in the underlying memory.

Several studies have found that children are highly likely to change their answer the second time a question is asked within the same interview (Cassel & Bjorkland, 1995; Laumann & Elliot, 1992; Moston, 1987; Poole & White, 1991; Warren, Hulse-Trotter, & Tubbs, 1991). This is especially true for children age 6 and younger. For example, Cassel and Bjorkland (1995) found that 42% of the 6-year-olds in their study changed their responses to a specific question about a video of a bicycle theft (Did the boy have permission to take the bike?) the second time the question was asked, but few of the 8-year-olds changed their answer. It is also important to note here that children may be substantially more likely to change their answer when asked a leading question phrased as a yes-no question (e.g., The bike was stolen by the mother, wasn't it?), than when asked to provide information (e.g., Who stole the bike?), an issue that we discuss at greater length later in this chapter. These results indicate that repeating a question within the same interview as a memory check for young children is often detrimental. Children, especially preschoolers, appear to respond to the repeated question as an indication that the adult was not pleased with their first answer, and are therefore likely to change their answer as a result of the social demands of the situation, not necessarily as a function of poor memory.

In contrast to repeating questions within the same interview, the social situation is quite different when the same question is asked repeatedly across separate interviews. Because time has passed between recall occasions, and often a different person is conducting the interview (e.g., a social worker, a police officer, or a lawyer), children may not think that a repeated question means that the first answer was not acceptable. Moreover, given the general finding in the memory literature that rehearsal buffers against forgetting (see Schwartz & Reisberg, 1991, for a review), there is good reason to predict that recalling an event on multiple occasions will help children report what occurred rather than hinder them.

Research examining the effects of previous interviews on children's subsequent recall provides some support for this prediction, but it seems to be tempered by developmental differences. After examining repeated interviews over relatively brief durations of days or weeks, no study has found detrimental effects of repeated nonsuggestive interviews, in the sense that no study has found an increase in the amount of inaccurate in-

formation reported. And, for children aged 7 to 8 years or older, recalling an event even once often leads to better subsequent recall (Flin, Boon, Knox, & Bull, 1992; Memon, Wark, Bull, & Koehnken, 1995). Recalling an event once does not seem to be as beneficial for children younger than age 7, but recalling an event several times is beneficial for subsequent memory at all ages (Baker-Ward, Gordon, Ornstein, Larus, & Clubb, 1993; Baker-Ward, Hess, & Flannagan, 1990; Cassidy & DeLoache, 1995; Gee & Pipe, *in press*; Goodman, Bottoms, Schwartz-Kenney, & Rudy, 1991; Warren & Swartwood, 1992). Repeated interviews do not compromise children's memory reports, and may even help children to recall more information, at least over short delays. (The way in which recall may change over more substantial delays is discussed in detail later.)

One reason why repeatedly recalling an event may lead to better subsequent memory is that in the process of recall, children reactivate the memory of the experience. Thus, recall may be similar to reexperiencing the event, leading to a stronger memory trace. It is also possible that recalling an event immediately after experiencing it serves to organize and consolidate the memory, and prepares children for subsequent verbal recall. If so, an immediate interview would be particularly beneficial for subsequent memory.

Yet several studies have found no effects of timing of the first recall; in general it does not seem to matter whether the interview occurs immediately or within a couple of weeks after the event for it to have a beneficial effect for older children. For younger children, when the interviews occur seems less important than the number of previous interviews. However, this remains an intriguing developmental question. It may still be the case that the first interview must occur within a specific time window for it to help buffer against forgetting, and this time window may be longer for older children than for younger children.

One line of research in support of this possibility comes from the infant memory literature. This literature obviously focuses on nonverbal memory of an event, and thus any parallels must be drawn with caution. However, for infants, the timing of reactivating a memory through partial reinstatement of the event is critical for subsequent retrieval. Using a conjugate reinforcement paradigm, in which infants learn to kick in order to make an attractive mobile move over their crib, Rovee-Collier and her colleagues (Boller, Rovee-Collier, Borovsky, O'Conner, & Shyi, 1990; Rovee-Collier & Gerhardstein, 1997) demonstrated that the period during which reactivation of a memory is effective follows a clear developmental trajectory, with older infants able to maintain the behavioral response without reinstatement for longer periods of time than younger infants. And Sheffield and Hudson (1994) have shown a similar pattern with tod-

dlers; 1-year-old children need to be reminded of an event sooner than do 2-year-olds in order to be able to reenact the event when returned to the original context.

Evidence of memory through behavioral reenactment is obviously very different from verbal recall. Most important, verbal recall takes place outside of the spatial-temporal context of the original event, and this is not true for behavioral reenactment. Indeed, infants are heavily dependent on being back in the original context in which the event was experienced in order to evidence any memory of the event at all. Moreover, there is no evidence that events occurring before the ability to describe the event in language will ever become accessible for verbal recall (see Fivush, Pipe, Murachver, & Reese, 1997, for a review). Therefore, the data from the infant memory literature can only be taken as suggestive that, just as the timing of behavioral reinstatement is critical in extending the life of a behavioral response in infancy, the timing of verbal reinstatement through recalling an event may be critical for extending the life of a verbally accessible memory. In general, younger children show steeper forgetting curves than older children, at least for word lists, and possibly for complex events as well (see Brainerd, Reyna, Howe, & Kingma, 1990, for an overview). It may be the case that younger children need to verbally rehearse an event sooner after an event's occurrence in order to buffer against long-term forgetting. Although the research indicates that an interview immediately after the event occurs is not critical, the first recall may have to occur within a specified period of time for it to be effective, and this timing may be developmentally sensitive.

Overall, whereas repeating questions within the same interview is usually detrimental especially for younger children, repeating questions across interviews does not have the same effect. In fact, repeated interviews may benefit long-term retention. For children older than about age 7, even one previous recall often leads to better subsequent recall. For children younger than 7, participating in one previous recall may or may not be effective, but participating in several previous recalls seems to be. An important avenue for further research is to examine the effects of the timing of interviews on children's retention, in addition to the number of interviews.

CHILDREN'S RECALL OVER LONG DELAYS

Studies on repeated interviews tend to examine children's memories over a relatively brief period of several weeks or a few months. But, just as children who enter the legal system are interviewed multiple times, it is also

the case that children often testify in court several years after the actual event occurred (Myers, 1987). What is it that young children can remember about personally experienced events over such long delays? Warren and Swartwood (1992) asked children to recall how they heard about the Challenger space shuttle disaster at several time delays up to 2 years after the event. Whereas children older than age 8 at the time of the disaster showed better recall if they had previously recalled the event, children younger than this showed no effects of prior recall at the 2-year delay. Similarly, Poole and White (1991, 1993) interviewed groups of 4- and 6-year-olds and adults about a staged argument either immediately and 1 week later, or only 1 week later. All were then interviewed again 2 years later. Researchers found few effects of prior interviews at either the 1-week or the 2-year delay on open-ended questions. They also found high inconsistency between interviews in the youngest children's responses to specific questions, both at 1 week and at 2 years. Again, however, it is important to note that the specific questions were all yes-no questions. Still, these results raise the question of stability of memory over long periods of time. How much information are young children able to remember over periods of several months or years, and how might the memory change over time? Perhaps most important from a forensic viewpoint, is there increasing error in memory over long delays?

Somewhat surprisingly, there is now a good deal of evidence that children as young as 3 years of age can recall accurate details about past experiences, and they can retain these memories over delays of several years (Fivush, Gray, & Fromhoff, 1987; Fivush & Hamond, 1990; Hamond & Fivush, 1990; Sheingold & Tenney, 1982; Todd & Perlmutter, 1980; see Fivush, 1993, for a review). For example, Hudson and Fivush (1990) asked children to recall a kindergarten class trip to an unusual museum of archeology immediately after the experience, 6 weeks later, 1 year later, and 6 years later. Children recalled the event in great detail and quite accurately up to a year later. Six years later, children were still able to recall the event but they needed more cues and prompts from the interviewer, and they recalled less information overall than they had at the 1-year delay. Moreover, whereas there were virtually no errors in children's reports at the 1-year delay, at the 6-year delay, some children made reconstructive errors, inferring certain items or actions that had not occurred. Still, memory was largely accurate even at this long delay, and what children did recall was recalled in great detail.

Similarly, Fivush and SchwarzmueLLer (1998) demonstrated that children now 8 years of age are able to recall accurately events they experienced up to 5 years in the past. Children recalled just as much information at age 8 as they had when they initially recalled these events at either age 3, 4, 5, or 6 years. Two aspects of the results deserve note. First, in this

study, there was no increase in error even over these long delays. This is most likely because the events asked about when the children were 8 were highly distinctive, personally meaningful events in the children's lives, much more so than a class trip to a museum. Second, although children's recall remained highly accurate, the content of their recall changed dramatically; children recalled different aspects of the event at the interview conducted when they were 8 years old than they had at the previous interview. In fact, up to 70% of the information recalled at the age 8 interview was new and different information than recalled at the previous interview, although still accurate according to parental report.

Importantly, several studies have now documented that children's recall of an event changes substantially across recall occasions, whether the recalls are separated by a few weeks (Fivush, Hamond, Harsch, Singer, & Wolf, 1991; Hudson, 1990b) or several years (Fivush & Hamond, 1990; Fivush & Shukat, 1995). The reasons for this high level of inconsistency between children's reports of an event are still not clear. Part of the answer seems to lie in the way in which recall is elicited. Children seem to recall different information when they are recalling the event with someone who was present during the event than when recalling the event with someone who was not present. Children may perceive informed versus naive interviewers as needing different kinds of information. Content of recall also varies as a function of the types of questions children are asked. In situations where children are asked to supply specific types of information they may easily be able to do so, but they may not include this information in a free recall of the event.

We must emphasize that, in these studies, children did not report information that was contradictory; rather, children seemed to focus on different aspects of the event to report. For example, in recalling going to SeaWorld, one young child focused on how they got there, and her mother getting lost and needing to ask directions when she first recalled the event at age 5, but a year later at age 6, she focused on the whale show, and how exciting it was to see Shamu. Although it is still not clear why children choose to focus on different aspects of an event on different recall occasions, it is imperative to point out that inconsistency, in and of itself, is not an indication of inaccuracy.

More experimentally controlled studies of children's memories over long periods of time confirm and extend the findings from the more naturalistic memory research. In the Poole and White (1993) study mentioned earlier, they asked children now aged 6 or 8 years old and adults to recall a brief altercation they witnessed 2 years in the past. The overall amount of accurate information declined over time, but the amount of inaccurate information did not increase. In contrast, Salmon and Pipe (1997) interviewed children about a quasi-medical laboratory event immediately and

1 year later. Again, there was a decrease in amount of accurate information recalled but, in this study, there was also an increase in inaccurate information. Moreover, information reported at the second interview, but not at the first interview, was significantly more likely to be in error than to be accurate. Similarly, Peterson and Bell (1996) reported that 3- through 13-year-old children's memories for minor medical traumas requiring emergency room treatment remained extremely accurate over a 6-month delay, and there was little forgetting over this period of time. However, although accuracy remained quite high, there was a slight increase in errors. After interviewing these same children again 2 years after their injury and treatment, Peterson (1999) reported that children were able to recall as much information about their experiences at this long delay as they had initially, although recall for the injury was more accurate and more exhaustive than was recall of the treatment. Highly distinctive and salient events seem to be extremely well recalled even after substantial delays.

Peterson and Bell also included a group of 2-year-olds who showed a different pattern; because of their limited language skills, they were unable to verbally recall much about their experience at the time of occurrence, they included a considerable amount of error even in their initial reports, and their errors increased over time. In general, research suggests that there may be a qualitative shift in children's abilities to give accurate verbal reports sometime between the ages of 2½ and 3 years of age. Furthermore, Peterson and Rideout (1998) found that children who were under 2 years of age and therefore did not have the language skills to verbally describe their experience at the time it occurred, remained unable to verbally recall it during repeated interviews over the subsequent 18 months. Although it is beyond the scope of this chapter to review this issue in detail, it is important to note that children who are too young to provide a verbal account of an event when it is experienced remain unable to recall that event verbally even as their language skills develop (see Fivush et al., 1996; Fivush, 1998, for reviews). Peterson and Bell's data further indicated that any verbal recall produced in these later interviews by children who were 2 or younger at time of experience included a great deal of error. Once children are able to provide a verbal account at the time of experience, at about 2½ to 3 years of age, they seem to be able to retain these memories over long delays. However, while these reports remain remarkably accurate, there is often a decrease in amount of accurate information reported and a small, but significant increase in amount of inaccurate information included with increasing delays.

In an attempt to disentangle when there will be decreases in amount of accurate information and/or increases in amount of inaccurate information, several aspects of the event should be considered. Most important, events that remain distinctive are less likely to become confused with

other events the child experiences, and thus are less likely to suffer from inferences and reconstructions leading to error. Certainly, the quasi-medical event studied by Salmon and Pipe is less distinctive and more confusable with other events than either medical events requiring emergency room treatment or the kinds of unique events studied in the more naturalistic research, such as going to DisneyWorld, or being a flower girl in an aunt's wedding. Thus we would expect increasing error over time for events that are more similar to other experienced events and, in contrast, less increase in error over time for more distinctive events that are not easily confusable with other events.

Note that increasing error for less distinctive events is most often a matter of confusing details among similar experiences rather than reporting details that were never experienced. In general, children's recall changes dramatically as a function of the number of experiences with similar events (see Hudson, Fivush, & Kuebli, 1992, for a full theoretical discussion). Children's reports become more schematic, in that they report more of the component activities that occur across most episodes of a similar event but report these activities in less detail (Fivush & Slackman, 1986), and preschool children often confuse the specific details of one event with the details of another similar event (Farrar & Goodman, 1990; Hudson, 1990a). This becomes important in forensic situations when children are being asked to recall one specific episode of a repeated experience, as often occurs with physical and sexual abuse. Therefore, it is not so much a question of decreasing accuracy, but rather a process of confusing details as repeated experiences begin to be represented and remembered in terms of what "usually happens." Children, and especially preschoolers, may be able to report what usually happens accurately but have difficulty recalling the details of a specific instance of a repeated event.

Related to the issue of distinctiveness is personal significance. Many of the laboratory events studied are not particularly interesting and/or meaningful to the child and therefore are less likely to be remembered over time. One reason for this may be because events that are interesting and meaningful tend to be talked about and thought about more often than other kinds of events. As we have already reviewed, recalling an event multiple times may help buffer against forgetting. Thus, personal significance may be the impetus leading to higher levels of rehearsal for some events over others, rendering these events more memorable over longer periods of time.

In general, the research indicates high levels of accuracy in young children's recall of distinctive events over time and over multiple interviews. However, over long delays, children may report less information overall, and may include more inaccurate information in their verbal reports. This pattern may be especially likely when other similar events have been ex-

perienced. When events remain highly distinctive, children may be able to recall as much information, and recall it as accurately, even after long delays. It must be emphasized that the studies reviewed thus far did not include misleading or suggestive questions. If talking about events with others helps buffer against long-term forgetting by essentially reinstating the event through language, what might the effects be when erroneous information is included in these conversations?

REPEATED SUGGESTIVE QUESTIONS

Extensive literature documents that children are susceptible to misleading and suggestive questions (see Ceci & Bruck, 1993, for review). When children are presented with misinformation after an event's occurrence, they may begin to accept that information as having occurred during the event itself. Obviously, this is a complex phenomenon, and several factors influence the extent to which children are likely to be suggestible, including level of active participation in the event (Goodman, Rudy, Bottoms, & Aman, 1990), whether or not bodily touch occurred (Steward, 1993), and the demeanor of the interviewer (Carter, Bottoms, & Levine, 1996; Goodman et al., 1991). In addition, there are developmental differences in suggestibility, such that younger children, especially preschoolers, are more suggestible than older children, and there is intriguing evidence that temperamental factors such as distractibility (Ornstein, 1995), and emotional factors, such as attachment relations (Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1994), may play a role in individual differences in children's susceptibility to suggestion.

Although it is incontrovertible that interviewing children in suggestive and misleading ways compromises their memory reports, it is not clear to what extent misinformation presented after an event's occurrence changes the child's memory of what occurred. Most studies of children's suggestibility rely on children's responses to yes-no questions about the presented misinformation, but as we discuss in detail in the next section, these kinds of questions may be particularly problematical for young children. Little research has examined children's tendencies to incorporate suggested information into their subsequent recall of the event. Cassel and Bjorkland (1995) asked 6- and 8-year-olds and adults to recall a video of a bicycle theft three times across a 1 month interval. Even those participants exposed to misinformation during the first or second interview did not come to recall that information at their final interview. Levels of accuracy of free recall were extremely high at all interviews and ages, although older children and adults recalled more information overall than the younger children. Importantly, however, whereas even the youngest chil-

dren did not report the misinformation in their recall, they did acquiesce to the misleading questions significantly more often than did the older children and adults. Similarly, Poole and White (1991) found little inclusion of misinformation presented about a witnessed altercation into children's free recall of the event 1 week later, but younger children acquiesced to misleading questions more often than older children.

These results suggest that suggestibility may reflect children's tendencies to acquiesce to authority as much as changes in children's memories of what occurred (see also Ceci, Toglia, & Ross, 1990). Children, and especially preschoolers, may be susceptible to the form of the question and the authority of the interviewer such that they are more likely to acquiesce to a yes-no question, but this does not necessarily mean that their memory of the event has changed, as this information does not seem to corrupt their subsequent recall of the event. From a legal standpoint, whatever the mechanism underlying children's suggestibility, it is still equally detrimental to their credibility as witnesses. Moreover, these studies indicate effects of misleading information after only one intervening interview that includes misinformation. What happens if children are repeatedly questioned in misleading and suggestive ways? When adults were asked the same questions repeatedly during the same interview, and these questions contain misleading information (e.g., "Which door did the young man wearing gloves enter through?" when the man was not wearing gloves), they subsequently claimed that they remembered the presented misinformation ("Yes, the man was wearing gloves.") at substantially higher rates than participants presented with the misinformation only once (Mitchell & Zaragoza, 1996; Zaragoza & Mitchell, 1996).

Ceci and his colleagues have conducted two studies examining young children's reactions to repeated suggestive questioning. In Leichtman and Ceci (1995), a visitor, Sam Stone, came into preschoolers' classrooms during story time, said hello, walked around, and then walked out. In the control condition, children were asked to recall this event four times in a neutral manner. In the stereotype condition, in which the authors tried to bias the children against the visitor, children were told before the visit that Sam Stone would be coming and that he was nice but clumsy; they were then interviewed four times in a neutral manner. In the suggestibility condition, children were interviewed four times after the event in a misleading way suggesting that Sam Stone had been naughty and dirtied a teddy bear and ripped a book. Finally, in the stereotype plus suggestibility condition, children received both the stereotyped information before the visit and the misinformation after the visit. At a final fifth interview, children were asked to recall what happened when Sam Stone visited their classroom and were then asked a series of specific questions. Children in the control condition showed highly accurate recall, again indicating that

even young children can recall events accurately over multiple interviews in the absence of misleading and suggestive questions. But children in the other conditions all showed some effects of the misinformation, and of the children in the stereotype plus suggestibility condition, one third to one half of the children spontaneously reported that Sam Stone had performed the naughty deeds. However, these numbers dropped to approximately 20% when asked if they really saw Sam Stone do these things. Still, one fifth of the children in this condition continued to insist that Sam Stone had done these things even when offered a countersuggestion that he had not. Thus it is quite clear that repeated suggestions over multiple interviews are detrimental to children's memory reports.

Ceci, Huffman, Smith, and Loftus (1994) further demonstrated that children can begin to report events that never occurred at all. They asked 3- to 4- and 5- to 6-year-old children a series of open-ended questions about events that they had experienced (e.g., "Did you ever go to the circus?", having confirmed with parents that the child had been to a circus) and questions about events never experienced ("Did you ever get your finger caught in a mousetrap and have to go to the hospital to get it removed?"). Each child was asked these questions between 7 and 10 times approximately 1 week apart. At a final interview 10 weeks later, children were asked to give a narrative about each of the events. All children acknowledged that the true events had happened and gave narratives about these events at the final interview. However, about one third of the children also assented that the false events had occurred and gave a narrative about these events at the final interview, although children's rate of falsely assenting at the last session was almost equal to that at the first session. Ceci et al. argued that simply asking children to think about an event may lead some children to generate a visual image confusable with a real memory. These results demonstrate that, under certain conditions, children will come to report events that did not occur.

The issue of the conditions under which young children are more or less likely to begin to report events that have not occurred is still open to debate. One problem with the Ceci et al. methodology is that it is not clear that the children understood that they were supposed to report only true events. That is, the interviewer may have given the impression that the task was to make up stories. Further, the cues used (e.g., "Did you ever get your hand caught in a mousetrap and have to go to the hospital to get it removed?") already have the bare bones of the story given to the child and the child simply needs to elaborate on it, as opposed to the kinds of open-ended question used to query about true events (e.g., "Did you ever go to the circus?"), which requires children to form the component actions of the event in their narratives. Perhaps more important, events for which children have some background knowledge are more likely to be sugges-

tively induced than less familiar events. Pezdek and Hodge (1998) repeatedly asked children about getting lost in a shopping mall, a highly familiar and highly plausible event, and getting a rectal enema, a less familiar and less plausible event. Although almost 30% of the children reported getting lost in the mall, few children acquiesced to the rectal enema suggestion. These results indicate that children are less likely to acquiesce to events for which they have no background knowledge even under repeated suggestive questioning. Still, the research indicates that repeatedly interviewing young children (and adults; see, e.g., Hyman, Husband, & Billings, 1995) in suggestive and misleading ways can seriously compromise the credibility of their subsequent memory.

In summary, whereas repeated interviews in and of themselves do not seem to decrease accuracy, there are several conditions under which repeatedly questioning children does lead to increasing error. First, repeating the same questions within the same interview often leads young children to change their initial response, most likely due to the social demands inherent in this situation. Second, repeatedly questioning children in misleading or suggestive ways leads to large increases in erroneous memory reports. However, the form of the question and the required memory response must be considered. In most studies of suggestibility, children acquiesce to yes-no questions containing erroneous information. It is possible that yes-no questions pose a special problem for young children. It is to a consideration of how children answer specific types of questions that we now turn.

THE FORM OF THE QUESTIONS

Because it is well established that young children do not provide much information in response to general, open-ended questions and instead require more specific probes, it is odd that the form of the specific questions being directed toward young children has received so little empirical attention. In particular, the syntactic form of these specific questions has been largely ignored. Nevertheless, the syntactic format of the questions may have an important effect on the outcome of any child interview.

The two most commonly used syntactic formats of questions are yes-no questions and questions that use *wh*-question words, for example, *who*, *where*, *when*, and *what*. More specifically, (a) one can ask a yes-no question in which the particular information of interest is provided by the interviewer and the child is simply asked to affirm or deny its truth, for example, "Were you in the bedroom? Was your father there? Did the man wear a red shirt?"; (b) alternatively, one can ask a *wh*-format question in which the child is asked to supply a particular detail, for example, "Where

were you? Who was there? What did the man wear?" These two question formats are not only different syntactically, they may have different consequences in terms of the veracity of information provided by the child. A *wh-* format question requires the child to provide the sought after information without the interviewer predetermining what that information consists of. In contrast, in *yes-no* questions the interviewer predetermines the information and the child simply responds "yes" or "no." In order to do this correctly, the child must understand the underlying assumption of *yes-no* questions, namely that the truth of the stated proposition must be the sole determiner of the child's response.

The literature on eyewitness memory in preschoolers is rife with confusions about the nature of the questions that the children were asked. In a review of the syntactic form of questions addressed to young children, Peterson and Biggs (1997) found that a number of investigators label *yes-no* questions as "specific questions" (e.g., Baker-Ward et al., 1993; Baker-Ward, Ornstein, Gordon, Follmer, & Clubb, 1995; Vandermaas, Hess, & Baker-Ward, 1993) or "cued recall" questions (Lepore & SESCO, 1994), whereas others provide children with an unspecified mixture of both *yes-no* and *wh-* questions (e.g., Merritt, Ornstein, & Spicker, 1994). This unspecified mixture of *yes-no* and *wh-* questions has been given other labels, for example, "direct questions" (Goodman, Hirschman, Hepps, & Rudy, 1991; Goodman et al., 1994), "cued recall" (Flin, Boon, Knox, & Bull, 1992), and "probed recall" (Saywitz & Nathanson, 1993). In such unspecified mixtures of *yes-no* and *wh-* questions, it is impossible to separate children's performance on these two types of questions. Most alarmingly, if children responded to these two question formats with different degrees of accuracy, it is possible that the conclusions reached in these studies need to be reevaluated.

The potentially problematic nature of *yes-no* questions was highlighted in early research by Fay (1975). He asked 3-year-old monolingual speakers of English questions that were clearly nonsense, for example, "El camino real?" These uninterpretable utterances were accompanied by the standard rise in intonation that accompanies English *yes-no* questions. In spite of the nonsensical nature of the questions, 62% of 3-year-olds nevertheless answered "yes" to them. In other words, young children have a strong bias to respond to *yes-no* question intonation, even when they do not understand the question's meaning.

More recently, Peterson and Biggs (1997) assessed the accuracy of *yes-no* questions asked of 2- to 13-year-old children who were recalling injury experiences that had required hospital emergency room treatment, such as breaking bones, requiring stitches, and so on. Both *wh-* and *yes-no* questions were asked. Importantly, the accuracy of the children's responses to *yes-no* questions was highly affected by whether the child

said "yes" or "no." This was not true for school-aged children; however, preschoolers who were between 2 and 4 years of age were at chance levels of performance when they replied "no." That is, approximately 50% of the time they said "no," the veridical response should have been "yes." They were more likely to be correct when they responded "yes" to the experimenter's questions (i.e., about 85% of the time).

In the previous study, there was no attempt to systematically vary the questions asked of the children, so a more systematic investigation of question format was conducted by Peterson, Dowden, and Tobin (1999). They recruited 3- to 4-year-olds from a preschool and engaged them individually in various activities. One week later, children were individually questioned about the previous events. Every question asked of the children had three different formats for different children: wh- format, yes-no format for which the veridical response was "yes," and yes-no format for which the veridical response was "no." Findings also indicated that it made a substantial difference if the veridical response to the question was "yes" or "no." When the veridical response was "no," the child's responses were at chance levels. In other words, the children had a bias to say "yes," and if in fact this was the correct response, this bias led to high rates of "accurate" responding; in contrast, if "no" was the correct response, this bias undermined their accuracy rates.

Furthermore, the content about which children were questioned also made a difference. They were asked about the environment of the room they had been in, the characteristics of the two people who had interacted with them, and the nature of the craft activities in which they had engaged. Both "yes" and "no" responses were at chance levels when children were questioned about the environment. When the characteristics and the behavior of the two experimenters were queried, children's responses were at chance levels when the veridical answer should have been "no." Only when queried about the craft activity were children more likely to respond accurately than inaccurately when they should have said "no," and even for this content, one quarter of the time they gave the incorrect response of "yes." In contrast, they were almost always correct when the veridical response about activities should have been "yes."

What does it mean when the accuracy of a child's response is affected by whether the veridical response should have been a "yes" or a "no"? If children understand the questions and answer to the best of their ability, the accuracy of response to both types of questions should be equivalent. The fact that the accuracy of response is so different suggests that there are other factors operating besides whether the proposition queried by the question is true or not. Such factors could include task demands that encourage children to respond "yes" if they don't understand the question (such as in the children described by Fay, 1975). Or, children's responses

may be affected by a host of other things such as response habit, the success of certain responses in terminating questioning, because children want to be liked by (and therefore agree with) adults, because of compliance, and so on. Such differences in response accuracy, depending on whether the child says "yes" or "no," or whether the underlying proposition being queried was true or false, are disturbing.

There is another issue explored in the research by Peterson, Dowden, and Tobin (1999). In accordance with some situations in which children are questioned, children were not explicitly told that they could answer "I don't know," and they almost never did so when the question was in yes-no format, regardless of question content. However, they much more frequently replied "I don't know" spontaneously when the question format was wh- in nature. In particular, children did not seem able to recall the characteristics of the environment in which the initial interaction took place. For wh- questions about this content, 70% of the children's responses were "I don't know." (In contrast, less than 10% of the wh- questions about activities elicited an "I don't know" response.) Nevertheless, when given a yes-no question about the characteristics of the environment, children almost never responded "I don't know" — rather, they asserted "yes" or "no," and that answer was as likely to be wrong as right. This pattern of results suggests that yes-no questions are more likely to be responded to than are wh- questions with a facade of certainty, when in fact the child has no idea what the response should be.

Repeated Yes-No Questions

Given that young children have such difficulty with the form of yes-no questions in general, as well as repeated questions within the same interview, how do they respond when asked the same yes-no questions repeatedly? Schwarzmüller (1997) addressed this question by asking 4- and 6-year-old children yes-no questions and wh- questions repeatedly, both within the same interview and across two interviews 1 week apart. Children were first asked for free recall of a structured play activity, visiting the wizard, and were then asked the same set of four yes-no questions and four wh-questions, three times in the same interview. They were then asked again for free recall and the eight specific questions a week later. Another group of children was asked for free recall and the four yes-no questions and the four wh- questions only once during the first interview and again a week later.

First, it is important to point out that, although the older children recalled more than the younger children during free recall, all children were highly accurate at both interviews. Responses to the wh- questions were also highly accurate for the older children; 90% of their responses to these

questions were accurate at both interviews. However, 4-year-olds had more difficulty with specific wh-questions. Seventy percent of their responses were accurate at the first interview and 65% were accurate at the second interview. One reason why these young children may have had some difficulty responding to wh- questions is because these questions asked children to supply a specific piece of information (e.g., "What shape was the cookie cutter?") rather than more open-ended wh- questions that allow children to select information to recall (e.g., "What games did you play?"). Interestingly, in contrast to research reviewed earlier in this chapter, when children were asked the same wh- questions repeatedly within the same interview, they did not change their answer. Even if they gave a wrong answer the first time the question was asked, they continued to give the same wrong answer throughout the interview. This suggests that when children are asked the same question repeatedly in a supportive context, in which the interviewer explains he or she wants to make sure to remember what the child said, rather than in a situation in which the child may feel challenged, children are able to maintain their responses over repeated questioning. But importantly, consistency may not necessarily mean accuracy. In this study, children giving an inaccurate response were as consistent in response to repeated questions as were children providing accurate information.

Interestingly, the 4-year-olds responded to 83% of the yes-no questions accurately on the first interview, and to 81% correctly on the second interview. The 6-year-olds were accurate on 98% of the questions in the first interview and 94% in the second interview. But for three of the four yes-no questions, the correct response was "yes," so perhaps it is not surprising that even the 4-year-olds appeared accurate on these questions. As already argued, preschoolers seem to have a yes bias so when the correct answer is yes, their recall appears accurate. Moreover, when asked the same yes-no questions within the same interview, children tended to respond consistently; all of the 6-year-olds and 8 of the twelve 4-year-olds were completely consistent across repeated yes-no questions. However, while the 6-year-olds were near ceiling in accuracy, several of the 4-year-olds were consistent but inaccurate.

Overall, these findings indicate that yes-no questions may be particularly difficult for young children. The form of the question asks for a response even when children do not know the answer. And, there seems to be specific biases such that children are much more likely to respond "yes" to yes-no questions than "no." Overall, it is clear that yes-no questions should be avoided if at all possible in forensic interviewing, and certainly children's responses to these questions should be assessed with caution. Outside of controlled experimental conditions, the interviewer does not know what occurred during the event and therefore questions

that ask the child only to confirm what happened are quite likely to lead to erroneous conclusions. Responses to *wh-* questions in which children must actually supply some information seem to be less prone to error, although there may be differences between different types of *wh-* questions as well. Not surprisingly, more open-ended *wh-* questions ("Who was there?", "What did you do?") are responded to more accurately than more specific, closed-ended *wh-* questions that require a specific piece of information in response (e.g., "What color was the man's shirt?", "What did he touch you with?").

IMPLICATIONS FOR FORENSIC INTERVIEWING

The research reported in this chapter has clear implications for interviewing children in forensic situations. Although it has been reliably demonstrated that even children as young as 3 years of age are able to accurately recall personally experienced events over long delays, there are several circumstances that compromise this accuracy. Whereas it is now generally known and accepted that use of misleading and suggestive questions is detrimental to children's accuracy, two additional findings emerge from this review. First, asking the same question repeatedly within the same interview often compromises young children's memory responding. Repeated questions seem to be especially detrimental when they are leading or suggestive, or asked in a challenging tone of voice. Children younger than about age 7 seem to assume that when an interviewer asks the same question again, it is because the interviewer did not approve of the first answer, and they are quite likely to change their response in order to meet the implied social demands of the situation. Thus, this technique, far from being an effective memory check, undermines young children's credibility.

Second, and much more far-reaching, the research reviewed here clearly demonstrates that young children have considerable difficulty responding appropriately to yes-no questions. Preschoolers especially seem to understand the form of this question as demanding a response and will provide a response even if they have no idea what the correct answer is (indeed, even if no correct answer is possible). Moreover, they are substantially more likely to simply acquiesce to a yes-no question than to deny it. Thus, yes-no questions should be avoided if at all possible.

Young children's difficulties with yes-no questions raise issues about the interpretation of much of the suggestibility literature. Two basic methodologies have been used in this research. In the majority of studies, the child experiences or witnesses some event, and then in the course of being interviewed, she is asked suggestive or misleading questions. These questions are most often phrased as yes-no questions (e.g., "Did he take your

clothes off?", "Did he touch your private parts?"). The second methodology also involves the child experiencing or witnessing an event. Then in the course of a first interview, misinformation is presented, and the child is asked about this misinformation in a subsequent interview, again often in the form of a yes-no question. The problem is that yes-no and wh-questions are combined for analyses. Many of the results of the suggestibility literature may be a function of children's difficulty in responding to yes-no questions. Recall that studies generally do not examine whether children incorporate suggested information into their free recall of an event, and those few studies that have looked at this have not found this to be the case. What this pattern indicates is that, although children may acquiesce to yes-no questions, whether misleading or not, their acquiescence may not compromise their subsequent recall. Certainly, the issue of the form of the question must be carefully examined in future studies of suggestibility if we are to gain a full understanding of the mechanisms underlying young children's eyewitness testimony.

This conclusion must be tempered by the studies examining repeated suggestive questioning. In these situations, it is much more likely for children to begin to recall information that was not present during the event. In fact, some children even begin to recall entire events that never occurred. The conditions under which children are most and least likely to report suggested information after multiple interviews need to be explicated in future research. In particular, as Pezdek and her colleagues (Pezdek, Finger, & Hodge, 1997; Pezdek & Hodge, 1998) have argued, the background information available and the plausibility of the suggested event must play a role in whether or not children will report events that never happened. Moreover, individual differences that distinguish children who are most or least likely to be susceptible to suggestive questioning need further specification.

The finding that children's free recall remains reasonably accurate even after minimal exposure to suggestive questions (although it seems to be compromised by multiple suggestive interviews) is further evidence that the best forensic evidence remains what children are able to recall in response to open-ended questions. Unfortunately, young children, although accurate, are also often sparse in the amount of recall. This leads to the issue of how to question young children without compromising accuracy. Fortunately, although yes-no questions undermine accuracy, open-ended wh-questions do not seem to be as problematic. Even preschoolers respond at high levels of accuracy to wh-questions, such as who was there, where were you, what were you doing, and so forth. Forensic interviewers can probe young children's memory with these kinds of general questions with reasonable assurance that they will not be compromising the accuracy of the report.

It is clear that repeated interviews, in and of themselves, do not lead to increasing error in children's reports. As long as the interviews include only open-ended *wh-* questions, children's recall remains accurate over repeated interviews, and, indeed, repeated interviews may even facilitate amount of recall over long delays by helping to buffer against forgetting. Thus, the issue in forensic interviewing is how are children questioned, not how many times are children questioned.

This needs to be considered in the context of time since the event occurred. In many of the empirical studies, children recalled less information after long delays of a year or more, and there is often a corresponding increase in inaccurate information provided. However, a few studies did not find increasing error with increasing time. One possible explanation for the discrepant finding is the level of distinctiveness of the event being queried. Events that remain highly distinctive in the child's life may remain highly memorable, and little error may be reported even after long delays. The less distinctive the event, the more confusable with other similar events, and the more likely that children will begin to import details from these similar events into their recall. This may be a critical issue in forensic interviewing, as many children who come to the attention of the legal community are victims of repeated abusive experiences.

Surprisingly, there are few studies in the literature assessing children's susceptibility to suggestion for events that have been experienced many times (but see Goodman et al., 1994, for some relevant data). However, there is copious literature on children's ability to report familiar and recurring events that indicates that from age 3 forward, children are able to give accurate, organized accounts of recurring experiences (see Nelson, 1986; Fivush, 1997, for reviews). The problem from a legal standpoint is that these reports are quite general; children recall what usually happens and have great difficulty recalling a specific experience. This appears to be a robust aspect of young children's memory, and it is not clear how to reconcile this with the legal need for specificity.

In sum, this review indicates both strengths and limitations of young children's ability to give credible testimony. Under conditions in which young children are being interviewed about highly distinctive, personally meaningful events and are asked only open-ended questions, their ability to give accurate reports even after long delays is quite impressive. But, when children are interviewed in suggestive and misleading ways, especially if these suggestions are repeated across interviews, and if interviewers rely on yes-no questions, young children's memory cannot be considered at all credible. It is not so much a question of children's memory *per se*, as the way in which memory is elicited in the interviewing context. The question is not how credible are child witnesses; the question is how careful are forensic interviewers.

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