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4. Interviewing children in and out of court: Current research and practice implications.

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Interviewing Children in and out of Court

Current Research and Practice Implications

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What do we know about children's abilities to provide accurate eyewitness testimony? Until recently, scientific data were surprisingly sparse. However, beginning in the mid-1980s, the study of child victims/witnesses grew at an astounding rate; now it is a worldwide endeavor. When Melton (1981) published one of the first modern reviews of psychological research on children's testimony, only one contemporary empirical study directly addressing children's eyewitness memory was cited. Today, entire books and journal issues are devoted to research on this topic (e.g., Ceci & Bruck, 1995; Dent & Flin, 1992; Goodman, 1984; Goodman & Bottoms, 1993; Perry & Wrightsman, 1991; Poole & Lamb, 1998; Spencer & Flin, 1993). Important research currently is being undertaken not only in the United States but also in England (e.g., Davies, Westcott, & Horan, 2000), Scotland (e.g., Flin, 1993), New Zealand (e.g., Priestly, Roberts, & Pipe, 1999), Australia (e.g., Brennan & Brennan, 1988; Bussey, Lee, & Grimbeek, 1993), Canada (e.g., Bala, Lee, Lindsay, & Talwar, 2000; Peterson, Dowden, & Tobin, 2000; Sas, Hurley, Austin, & Wolfe, 1991), Israel (Hershkowitz & Elul, 1999), Sweden (Cederborg, Orbach, Sternberg, & Lamb, 2000), and elsewhere.

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There are several reasons why understanding children's testimony is important and worthy of investigation. For example, exploration of children's testimony provides us with new insights into memory development. But aside from theoretical reasons, pressing practical issues motivate the study of child witnesses; these practical issues add urgency and consequence to research endeavors.

Perhaps the most salient of the practical reasons concerns reports of child abuse. It is estimated that in 1998 in the United States alone, more than 2.8 million cases of maltreatment were reported. Among these, approximately 903,000 cases either were substantiated or showed some evidence indicating maltreatment (Golden, 2000). More than 50% of these cases focused on neglect, 25% on physical abuse, and nearly 12% on sexual abuse. Many of these cases are likely to involve interviews of children; the children's statements will influence whether they receive protection or whether the case is deemed unfounded. In addition, an unknown number of children are questioned each year more informally by parents, relatives, therapists, teachers, doctors, and others about suspicions of abuse. The results of these interviews also determine the number of children who receive protection and strongly influence the number of cases that come to the attention of social service and legal authorities. The study of children's testimony concerns in large part the accuracy and completeness of children's reports during such interviews.

In addition, although children are questioned more often in forensic investigations than in court, children take the stand at times. When they do, their testimony can influence whether justice prevails. National statistics concerning the number of child abuse victims who testify in criminal or family court do not exist, but relevant information is available, at least in regard to criminal court. Such information indicates considerable variability across jurisdictions in the number of child sexual abuse cases prosecuted and the number of children who testify. For example, Smith (1993) conducted a national telephone survey of 530 district attorneys' offices; she uncovered a large range (1 to 800; $M = 66$) in the number of child sexual assault cases prosecuted by each office. In a study of child sexual assault prosecutions in eight jurisdictions around the United States, Gray (1993) found that in several jurisdictions, children usually testi-

fied at grand jury hearings or preliminary hearings, but in other jurisdictions, they did not. Sas et al. (1991) substantiated that 50% of the nearly 150 children involved in research on preparing children for court later testified either at trial or in some type of preliminary hearing. Finally, in every child sexual abuse trial studied by Myers, Redlich, Goodman, Prizmich, and Imwinkelreid (1999), the child victim/witness testified.

These studies remind us that children do testify in court, and that even if a case never reaches the trial stage, children may be required to provide eyewitness reports during investigative interviews or during competency examinations, grand jury hearings, or preliminary hearings. A focus on the number of children who testify at trial underestimates the number of children who provide information in forensic interviews and who serve as witnesses in courts of law at pretrial stages. At least in some jurisdictions, a relatively large percentage of children involved as victim/witnesses in sexual assault prosecutions take the stand.

In sum, there are important theoretical and practical reasons to study children's testimony. Given the complexities and seriousness of child sexual abuse charges and the fact that the case may boil down to a child's word against an adult's, the accuracy of children's testimony and the best way to obtain children's statements become matters of substantial societal concern. When one considers that the terms *children's eyewitness memory* and *children's testimony* apply as much to children who are interviewed in a forensic, social service, therapeutic, school, or family setting as to children who testify in court, the importance of the topic is magnified.

In this chapter, we provide readers with a survey of some of the recent findings from child-witness research. We also draw practical *implications* of the studies for professionals who interview and evaluate children. Although our review is not comprehensive, we trust that it will acquaint readers with the flavor of current empirical work and inform readers of child witnesses' abilities and needs. We first discuss research concerning children's memory and suggestibility, particularly as they relate to child sexual abuse investigations. We next consider children's communicative competence—that is, their language and communication abilities—as they relate to children's testimony. We turn then to the topic of children in the legal system, focusing special attention on ways to

improve the investigative and courtroom process for children. Finally, we discuss practical implications of current research.

Memory and Suggestibility

The ability to provide accurate testimony depends on being able to remember and communicate memories to others. Research consistently indicates that the amount of information a witness reports about an event generally increases with age (e.g., Peterson & Bell, 1996), and young children (e.g., preschoolers) are usually more suggestible than older children and adults (Ceci & Bruck, 1993; Goodman & Aman, 1991). Nevertheless, even young children do not necessarily have poor memories, and they are not necessarily highly suggestible (Eisen, Quas, & Goodman, 2001). Memory abilities and the ability to resist suggestion typically vary at any age, be it childhood or adulthood, depending on situational and personality factors. These abilities are not stable even within a particular person but instead can change depending on a number of factors, including (a) the type of event experienced, (b) the type of information to be recounted, (c) the conditions surrounding an interview, (d) the strength of the memory, (e) the language used, and (f) postevent influences. It is precisely because memory and suggestibility are such complex, variable processes that researchers have devoted so much time and energy to studying them.

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One robust finding from the research literature is that free recall (a narrative provided in response to an open-ended question, such as "What happened?") is typically the most accurate form of memory report (e.g., Dent & Stephenson, 1979; Stern, 1910). One problem, however, is that such reports predictably are the most circumscribed, especially when young children are questioned (List, 1986). In comparison to their limited recall, children's recognition

memory is fairly good (Jones, Swift, & Johnson, 1988; List, 1986; Todd & Perlmutter, 1980).

The amount of information one obtains is increased when children are asked specifically about information of interest (e.g., "Did you go to Uncle Bob's house?") (e.g., Baker-Ward, Gordon, Ornstein, Larus, & Clubb, 1993; Gordon, Ornstein, Clubb, Nida, & Baker-Ward, 1991; Ornstein, Gordon, & Larus, 1992) or when their recognition memory is triggered by physical cues (e.g., a picture of the child's home or preschool) (e.g., Priestly et al., 1999; Salmon & Pipe, 2000). Although cues and specific questions elicit accurate information not otherwise reported, this may come at a cost. Inaccuracies tend to increase as well, and children make errors they would not otherwise have made (e.g., Dent & Stephenson, 1979).

Free Recall and Open-Ended Questions

One area of vigorous research has been examination of the effects of different question types. When an interviewer asks a broad, open-ended question, the information provided by the witness must come mainly, if not completely, from the witness's own mind and, ideally, from the witness's own experience. At times, however, children say relatively little in response to free recall and open-ended questions. A rather frustrating form of circumscribed free recall is evinced commonly by timid 2- or 3-year-olds: It is not atypical for a very young child to answer "Nothing" to the question "What happened?" even though the child can demonstrate memory of an incident when asked more specifically about it. Some young children will even respond "Nothing" when interviewed about very significant real-life events that clearly happened (e.g., the child almost died after attempted murder). The problem for the interviewer, then, is that it can be difficult to determine, based solely on young children's free recall, whether something major or inconsequential occurred.

Although open-ended questions typically are recommended at least for the initial interview queries, studies indicate that open-ended questions are not a panacea. They can elicit very inaccurate reports from a small number of children. For example, in

a study by Goodman and Aman (1991), one young boy who had played games with a man later reported, in response to a free-recall question, a wild adventure story of how the man and he had played cowboys and Indians, how he had been tied up, and so on. Thus, although free recall is most likely to lead to an accurate, albeit limited, statement, it is not guaranteed to do so. Moreover, studies also indicate that the free recall of young children can be distorted if preceded by repeated misleading questions asked in a multiply suggestive context, especially if negative expectations about a person have been created in the child's mind (Leichtman & Ceci, 1995; Poole & Lindsay, 1995; Thompson, Clarke-Stewart, & Lepore, 1997). Even in the absence of previous questioning, an accusatory context may lead to inaccuracies in free recall and spontaneous statements by some preschool children (Tobey & Goodman, 1992).

Free recall and open-ended questions relevant to abuse. One other problem with the use of open-ended questions is that they may fail to elicit reports of genuine abuse when it has occurred. Such questions may be so vague and general that young children fail to discern the significance or relevance of potential topics for discussion (e.g., "Tell me about what happened." "Is there anything you want to tell me?"). When content is embarrassing, such questions fail to convey that the interview is an appropriate place to violate social conventions that normally restrict conversations with strangers about private matters. In a study by Saywitz, Goodman, Nicholas, and Moan (1991), children who had experienced genital touch by a doctor during a medical examination omitted the fact that they had experienced vaginal touch more than 60% of the time *unless* asked directly about it. On the other hand, for children who did not experience genital contact during the doctor examination, there was an 8% false-report rate when asked a single leading, anatomical doll-aided question. Such findings highlight the difficult cost-benefit analysis facing interviewers regarding the phrasing of questions. In addition, age of the witness appears to be a critical factor for consideration. In two studies of younger children using more strongly leading techniques, 2- to 4-year-olds acquiesced to leading questions about a similar medical exam at much higher rates (Bruck, Ceci, & Francoeur, 2000; Bruck, Ceci, Francoeur, & Renick, 1995).

Fortunately, there has been some success in ways to help children respond to free-recall questions regarding reports of abuse. For example, Saywitz, Snyder, and Lamphear (1996), Dorado and Saywitz (2001), as well as Sternberg, Lamb, Esplin, Orbach, and Hershkowitz (in press) have explored training children to provide narrative reports, with some positive results. Such training techniques are described later in this chapter. These training programs are promising because, notwithstanding some potential problems with free recall, disclosures of abuse elicited in this way are likely to have the greatest credibility and to be particularly accurate.

Specific Questions

Despite demonstrations that young children's free recall can be inaccurate at times, typically, young children's responses to free-recall and open-ended questions provide accurate but overly succinct information rather than error-ridden information. How can one obtain more information from children? The obvious answer is to ask children specific or directive questions. Unfortunately, children's accuracy declines when asked yes-no questions (Brady, Poole, Warren, & Jones, 1999; Garven, Wood, Malpass, & Shaw, 1998; Ornstein, Baker-Ward, Myers, Principe, & Gordon, 1995; Peterson & Biggs, 1997; Poole & Lindsay, 1996, 1997). Fortunately, the accuracy of responses to such questions increases dramatically with age. Analyzing children's memories for traumatic experiences, Peterson and Biggs (1997) argued that yes-no questions should be avoided altogether with preschoolers (p. 288), whereas 5-year-olds were 89% accurate in responding to such questions (Peterson & Bell, 1996).

When children are asked specific questions, it is often useful to return to open-ended questions (Poole & Lamb, 1998). For example, after a child answers the question, "Did he put the chair anywhere?" the interviewer follows up with questions such as, "Tell me more about where the chair was." or "Then what happened?"

Specific questions relevant to abuse. Similar results have been obtained in asking children specific questions about genital touch; in two studies, Bruck has found near-chance performance among 2- to 4-year-olds (Bruck et al., 2000; Bruck, Ceci, Francoeur, &

Renick, 1995), whereas Saywitz and colleagues found much better (near-ceiling) performance among 5- to 7-year-olds (Saywitz et al., 1991). Under some conditions, even 4-year-olds maintain substantial accuracy in answering specific questions relevant to abuse (Rudy & Goodman, 1991). False "yes" responses among younger children to abuse-related questions tend to be unelaborated monosyllabic or nonverbal affirmations (Goodman & Aman, 1991), although some children provide false detail (Saywitz et al., 1991). Ultimately, the choice between completeness and accuracy when deciding whether to increase or decrease one's use of specific questions is a value judgment *informed* by, rather than *dictated* by, research on children's memory.

Suggestibility, Implanting False Memories

There has been a flurry of research on children's suggestibility in the past 10 years, much of it focused on the special vulnerabilities of preschool children (for reviews, see Ceci & Bruck, 1998; Goodman, Emery, & Haugaard, 1998; Lyon, 1999). The results of this research, coupled with basic empirical findings in developmental psychology, provide at least three reasons why young children are particularly susceptible to suggestion. First, young children have special difficulty in producing narratives without relying on cues provided by an adult questioner. Because cues are potentially misleading, the risk of inaccuracy increases. Second, young children are especially deferential to adults' perceptions and interpretations of prior events. If an adult communicates to a child that an event happened in a particular way, either explicitly or implicitly through the kinds of questions asked, the younger child is more inclined to believe it than an older child. Third, young children have difficulty in identifying the sources of their beliefs. They are more prone to confuse what they have been told with what they actually remember.

Children's difficulty producing narratives in response to free-recall questions was addressed earlier. Thus, we turn next to a discussion of children's deference to authority and children's source-monitoring errors.

Deference to adults and source-monitoring errors. Children's errors are increased by their tendency to defer to adults. Young chil-

dren often defer to adults' interpretations of prior events, even if those adults did not personally witness the events. Young children are less likely to infer that an adult questioner does not know what occurred because the adult was not present. In part, this is attributable to preschool children's lack of understanding about how we come to know things (Saywitz & Lyon, in press). Preschool children's suggestibility can be heightened when questions presuppose misleading information. Preschool children are also particularly susceptible to accepting adults' moral interpretation of others' actions, making children vulnerable to suggestions that innocuous actions were immoral (Lepore & SESCO, 1994; Thompson et al., 1997).

Another source of suggestibility is the preschool child's difficulty remembering the specific source of his or her beliefs—a task called source monitoring. Preschool children exhibit difficulties in recalling how they know some fact: because of something they saw, something they inferred, or something they were told (Gopnik & Graf, 1988; O'Neill & Gopnik, 1991; Woolley & Bruell, 1995). This difficulty is most pronounced with 3- to 4-year-olds, who performed not much better than chance in one simple source-monitoring study, whereas 5-year-olds were almost 100% correct on the same simple task (Gopnik & Graf, 1988). Researchers have documented relations between young children's source-monitoring abilities and their suggestibility (Leichtman, Morse, Dixon, & Spiegel, 2000; Welch-Ross, 2000; but see Quas, Schaaf, Alexander, & Goodman, 2000). Young children may therefore confuse what they have been told with what they have actually perceived.

Deference to authority may underlie situations in which researchers have found some dramatic rates of elaborated affirmations of nonevents among preschool children, such as when interviewers move beyond simple yes-no questions to ask questions that are more leading. Questions can be made highly leading by turning them into tag questions (e.g., "He touched you, *didn't he?*"), negative term questions (e.g., "*Didn't* he touch you?"), or suppositional questions, in which details are presupposed (e.g., "Where did he touch you?" when the child has not acknowledged touching) (Lyon, in press).

Children's deference to adult interpretation can also be exploited by giving the child negative information regarding the person about whom questions are asked.

Children's source-monitoring difficulties can be heightened by telling them that the asked-about events have in fact occurred, giving them the means to visualize the nonevents. Lepore and SESCO (1994) found, for example, 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 led to false affirmations that were subsequently repeated in 30% to 40% of the responses to yes-no questions, one third of which were elaborated with additional details. In a study of 3- to 4-year-olds' memories for an uneventful visit to their school by Sam Stone (Leichtman & Ceci, 1995), four suggestive interviews were employed, composed 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 in fact committed misdeeds that never occurred but also assisted the preschool children in developing elaborated narratives of how he had done so. Children were visited by research assistants once a week for 4 weeks before Sam Stone's visit. The research assistants narrated 12 clumsy mishaps caused by Sam Stone. Potential errors were generated by presenting children with physical evidence of Sam's fictitious misdeeds in the first two interviews: They were shown a ripped book and a soiled teddy bear. Asked a free-recall question 10 weeks after Sam's visit, 46% of the 3- and 4-year-old children spontaneously reported that Sam had performed one or both misdeeds.

Bruck and her colleagues (Bruck, Ceci, Francouer, & Barr, 1995; Bruck, Ceci, Francouer, & Renick, 1995) attempted to convince 4- and 5-year-olds that a research assistant rather than their pediatrician had given them a shot 11 months previously. The researchers employed two suggestive interviews, including forced-choice suppositional questions such as those used in the Sam Stone study (e.g., "When Laurie [the research assistant] 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." Moreover, the interviewers pointed to pictures of the research assistant and the pediatrician when misidentifying who had per-

formed the various checkup procedures. Forty to 60% of the children subsequently misidentified who had performed various actions during the checkup.

Other research has similarly demonstrated that preschool children's vulnerabilities make it possible to produce false narratives and high rates of error through suppositional questions, denigrating the target adult, telling children that nonevents occurred, and encouraging source-monitoring errors (Bruck, Hembrooke, & Ceci, 1997; Ceci, Loftus, Leichtman, & Bruck, 1994; Poole & Lindsay, 1995; Tobey & Goodman, 1992). More recently, Garven, Wood, and colleagues have shown that positive and negative reinforcement are also effective in distorting young children's reports (Garven, Wood, & Malpass, 2000; Garven et al., 1998). Space prevents a more complete discussion of this research, which can be found elsewhere (Lyon, 1999).

Suggestibility relevant to abuse. Despite the dramatic findings just reviewed, it is also true that suggestibility varies considerably across individuals and situations, even within a specific age group. Children, like adults, are more likely to give incorrect reports and to be more suggestible about peripheral or poorly retained information than about more salient, memorable information. Abusive genital contact is likely to be a fairly salient event for a child; therefore, children are likely to be less suggestible about such actions. Nevertheless, young children (e.g., 3-year-olds) appear to conform to suggestive questions relating to abuse more often than older children, at least under the types of situations often studied in child testimony research (e.g., Goodman & Aman, 1991). Perhaps young children do not yet fully realize the impropriety of most genital touch and thus are not as taken aback by such questions as older children seem to be. Even by age 4 or 5, many nonabused children show signs of surprise or embarrassment when asked whether a stranger removed the child's clothes or was naked.

Intimidation can add to young children's suggestibility about abuse-related events, and younger children appear to be more easily intimidated. A supportive context may be especially important in bolstering young children's resistance to suggestive misinformation about abuse (Carter, Bottoms, & Levine, 1996; Goodman, Bottoms, Schwartz-Kenney, & Rudy, 1991).

Recently, children who have suffered maltreatment have been included in studies of children's suggestibility about abuse. The studies address the likelihood of false reports of abuse in children with a previous history of maltreatment. The research to date indicates that maltreated children appear to evince similar levels of suggestibility as nonmaltreated children (Eisen, Goodman, Davis, & Qin, 1999). However, there are hints in the data that greater psychopathology may be associated with inaccuracies (Eisen, Goodman, Qin, & Davis, 1998).

Overall, the research counsels extreme caution in questioning young children, lest an overzealous interviewer suggest false information, including about abuse. At the same time, three positive implications can be drawn as well: (a) implanting false memories, even in young children, has often required researchers to move beyond simple yes-no questions (although false affirmations to abuse-related yes-no questions can be obtained in young preschool children); (b) just as younger children are substantially more suggestible than older children, older children are substantially less suggestible than younger children; and (c) there are ways to reduce the suggestiveness of interviews, given what the research has taught us (discussed in a later section on practical implications).

Trauma and Memory

Many would agree that sexual abuse can be a traumatic experience for a child, yet most studies of children's testimony do not concern the effects of trauma on memory. A number of researchers are studying children's and adults' memories for stressful events. Whereas the psychological lore used to be that stress had a debilitating effect on memory (e.g., Loftus, 1979), and some researchers still adhere to that view (Ceci & Bruck, 1993), some work with adults supports the notion that core features of highly emotional events are retained in memory with particular durability, although peripheral details may or may not be as strongly encoded or retained (Christiansson, 1992).

Nevertheless, research findings are quite mixed when it comes to studying children's memory and suggestibility for stressful events. On one hand, findings from several studies of children's memory for stressful events are consistent with the view that core features of stressful events are retained espe-

cially well in memory. For example, Goodman and her colleagues (Goodman, Hepps, & Reed, 1986; Goodman, Hirschman, Hepps, & Rudy, 1991) found that distress was associated with children's more complete recall and greater resistance to suggestion. On the other hand, some researchers (e.g., those who test children's memory for information not integral to the stressor) report decrements in memory (Bugental, Blue, Cortez, Fleck, & Rodriguez, 1992; Peters, 1991). At times, the decrements may reflect a lack of willingness to report memories associated with stressful events, as reflected in less complete free recall (Quas et al., 1999). Some researchers find mixed results even within the same study (Merritt, Ornstein, & Spicker, 1994; Peterson & Bell, 1996). An example of the mix of particularly enduring but not infallible memory for stressful events comes from Peterson and Rideout's (1998) research, in which 2.5- to 3-year-old children who suffered trauma injuries demonstrated largely accurate verbal recall 2 years later, although some errors were made. Interestingly, in that research, a subset of younger children (e.g., 20-25 months at time of injury) could verbally recall the stressful event 18 months later, even though they were not very verbal at the time of the event.

Thus, stressful events may be associated with particularly strong memories, but memories that are in certain ways inaccurate. In a series of clinical studies (Bidrose & Goodman, 2000; Pynoos & Eth, 1984; Pynoos & Nader, 1988; Terr, 1991) concerning children's memories for such horrifying events as homicides of loved ones, kidnappings, sexual abuse, and sniper attacks on schools, both accuracies and inaccuracies were noted. Moreover, certain children may remember stressful events more accurately than others. Important individual differences in children's processing of a stressful event have been uncovered (Goodman, Batterman-Faunce, Quas, Riddlesberger, & Kuhn, 1994; Ornstein, Baker-Ward, Gordon, & Merritt, 1993). Emotional forces, as yet not fully understood, may affect memory for highly traumatic events.

By adulthood, lost memory of traumatic events such as sexual abuse experienced in childhood may occur, although it is difficult to differentiate lost memory from unwillingness to disclose traumatic information (Goodman, Ghetti, Quas, Redlich, & Alexander, 1999; Williams, 1994). Younger age and less legal involvement are associated

with greater likelihood of lost memory of sexual abuse (Ghetti et al., 2000).

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False memories of traumatic events are also possible in children and adults. Many have concluded that the flurry of reports in the 1980s and 1990s of satanic cult ritual abuse involved false memories (see Bottoms, Shaver, & Goodman, 1996). False memories in children are more likely, however, for positive events than for negative events (Ceci et al., 1994; Schaaf, Goodman, & Alexander, 1999).

Summary

In summary, research indicates that even young children can, under certain conditions, provide accurate testimony, especially when interviewed in a supportive manner that does not involve highly or multiply suggestive accusatory questions. However, young children can be expected on average to make more errors in their statements than older children and adults. Substantial individual differences exist at all ages. Children may have particularly vivid memories for traumatic events, such as invasive genital touch, but may need to be asked specifically about such touch to reveal that it occurred. False memories, misperceptions, and errors in reporting of traumatic events also can occur. Preschoolers are often more susceptible to error and pose greater challenges for interviewers in attempts to obtain accurate and complete reports.

Children's Communicative Competence

It is through the spoken word that children typically are required to express their

memories. Even when a child's memory is accurate and strong, efforts to elicit reliable reports from children may be frustrated by developmental limitations on communication. Only gradually do children master articulation, vocabulary, grammar, and conversational rules of everyday speech. From birth to 10 years of age, children learn to discriminate and articulate sounds, comprehend increasingly more complicated questions, and produce increasingly more complex and intelligible responses. Hence, much of the difficulties posed by child witnesses can be a function of children misunderstanding adult questions and adults misinterpreting children's answers.

To learn to communicate, children rely on familiar adults to structure conversations. They depend on familiar environments to glean meaning from context. With age, children learn to communicate effectively, regardless of the familiarity of the listener or setting. Initially, language serves only a limited number of functions, such as identifying objects and locations. With maturation and experience, language comes to serve a wide array of functions, including the exchange of information via question answering.

In the forensic context, the exchange of information follows unique and unfamiliar rules for sociolinguistic interaction in an unfamiliar setting. Given these conditions, the communication demands of the legal system can be poorly matched to the child's stage of language development. Even older children may not communicate at their optimal level of functioning under such conditions. Recent studies have begun to examine children's abilities to communicate in the forensic setting. The linguistic complexity, vocabulary, and content of questions have been investigated, as have children's comprehension skills.

Linguistic Complexity

Recent studies suggest that many types of grammatical constructions are not mastered by young children but are common in the courtroom. In one study, children's abilities to repeat questions drawn from the transcripts of same-age child witnesses were tested (Brennan & Brennan, 1988). Repetitions were categorized by the degree to which error in repetition (e.g., rephrasing) captured the sense of the original question. Results revealed that children misunder-

stand many common courtroom question types. Such question types often are referred to as *legalese*. Legalese contains lengthy compound sentences fraught with independent and embedded clauses and grammatical constructions that are beyond the comprehension and memory of many children under 8 years of age. Serious miscommunications can result. When children are asked abuse-related questions in legalese, for example, error rates increase substantially (Carter et al., 1996).

Vocabulary

Researchers have tested children's knowledge of legal terminology. Results suggest that children younger than ages 8 to 10 misunderstand or fail to comprehend many legal terms commonly used with children in and out of court (Flin, Stevenson, & Davies, 1989; Saywitz, Jaenicke, & Camparo, 1990). For example, young children tend to make auditory discrimination errors, mistaking an unfamiliar legal term for a similar-sounding familiar word—for example, interpreting *jury* as *jewelry* ("that stuff my mom wears around her neck and on her finger") or *journey* (a trip) (Saywitz et al., 1990). Children also make errors by assuming that a familiar nonlegal definition is the operative definition in the forensic context. For example, children have maintained that a "court is a place to play basketball," "a hearing is something you do with your ears," and "charges are something you do with a credit card" (Saywitz et al., 1990). Word choice and grammatical construction are critical factors in eliciting accurate reports from children, whether in the courtroom or in an investigative interview.

The vocabulary of the competence examination. To qualify as competent to take the oath, most courts still require that child witnesses have some understanding of the meaning of *truth* and *lie* and appreciate the importance of telling the truth (Lyon, 2000). The ways in which attorneys and judges routinely question children often lead to underestimation of children's competence (Bala et al., 2000; Cashmore & Bussey, 1996). Children find it much easier to identify true and false statements than to explain the difference between the truth and lies or to define the terms (Lyon & Saywitz, 1999).

To demonstrate their understanding of the immorality of lying, children are fre-

quently asked what would happen to them if they lied. Because young children have difficulty in responding to hypothetical questions about negative events, they may refuse to answer such questions because of their fears of the consequences of lying. Children find it easier to describe what will happen to story characters who lie than to imagine themselves lying (Lyon, Saywitz, Kaplan, & Dorado, 2001).

Drawing from research on children's difficulties with traditional competency questions, an oath-taking competency picture task has been developed to sensitively assess young children's basic understanding of the meaning and morality of lying (Lyon & Saywitz, 2000). Using a version of the task, Lyon and Saywitz (1999) found that most maltreated children exhibit a good understanding of truth and lies by 5 years of age, despite serious delays in receptive vocabulary.

The oath itself can also be made more child-friendly. Many elementary schoolchildren do not understand what it means to "swear" to tell the truth (Saywitz et al., 1990). It is recommended that children be asked, "Do you *promise* that you *will* tell the truth?" (Lyon, 2000), although even the word *promise* is not well understood by many preschool children.

Content

Researchers are beginning to examine children's abilities to respond to questions that contain particular content and thus require specific cognitive skills or learning experiences. For example, forensic questions often require witnesses to pinpoint time or location and estimate height or weight by using conventional systems of measurement (e.g., minutes, hours, dates, feet, inches, pounds). Studies suggest that these skills are learned gradually over the course of the elementary school years (Brigham, Vanverst, & Bothwell, 1986; Davies, Stevenson, & Flin, 1988; Friedman, 1982; Saywitz et al., 1991). As discussed later, children may try to answer questions that require skill they have not yet developed. For example, young witnesses might be asked the time or day of an occurrence before they have learned to tell time, skills typically mastered around 7 to 8 years of age (Freidman, 1982). The type of information requested in a question can be an important determinant of the accuracy of children's responses.

Comprehension

Children's abilities to monitor their comprehension and identify misunderstandings are taxed heavily in the forensic context. Recent studies suggest that children being questioned about a past event may try to answer questions they do not fully understand (Saywitz, Snyder, & Nathanson, 1999). Children respond to a part of the question that they understand, typically the beginning or the end of a lengthy question, knowing that it is their turn in the conversation. Their response, however, is not necessarily the answer to the intended question. They follow the everyday rules of being a "good" conversational partner instead of the unique sociolinguistic rules for exchanging evidentiary information.

Although preschoolers have been shown to recognize comprehension difficulties and implement strategies for resolving them, they do so mainly in naturalistic settings on simple, familiar, nonverbal tasks (Gallagher, 1981; Revelle, Wellman, & Karabenik, 1985). In contrast, when settings, tasks, and stimuli are complex, unfamiliar, and verbal, young children may not know when they have failed to understand. In such situations, they rarely request clarification from adults (Asher, 1976; Markman, 1977; Patterson, Massad, & Cosgrove, 1978). Because the forensic context typically represents a complex, unfamiliar situation that relies heavily on verbal exchange, children can be expected to display comprehension-monitoring difficulties.

Currently, researchers are beginning to develop techniques for improving children's abilities to respond accurately to forensic questions (Bull, 1995; Camparo, Wagner, & Saywitz, 2001; Dorado & Saywitz, 2001; Fisher & McCauley, 1995; Saywitz, Geiselman, & Bornstein, 1992; Saywitz et al., 1999; Saywitz & Moan-Hardie, 1994; Saywitz & Snyder, 1996; Saywitz et al., 1996; Sternberg et al., 1997). One recent study suggests that through instruction and preparation, children can be taught to indicate their lack of comprehension and ask for rephrasing of questions, thus improving the resulting accuracy of their reports (Saywitz et al., 1999). After participating in a scripted school activity, 6- to 8-year-olds were interviewed with questions that varied in comprehensibility from easy to difficult. One group of children was instructed, prior to the interview, to tell the interviewer when they did not understand a question. Their

interview responses were significantly more accurate than those of children in a control group who were given only motivating instructions to do their best. A third group of children was prepared for the interview by explicitly teaching them to ask for a rephrase when confronted with incomprehensible questions and then practicing this skill with feedback. This third group provided significantly more accurate reports than children in the other two groups. They told the interviewer they did not understand linguistically complex questions, asked for rephrasing, and, in debriefing after the interview, attributed their success to this strategy.

In summary, studies suggest that the quality of a child's report depends on the competence of the questioner to ask questions in language children can comprehend about concepts they can understand. Communication also depends on the child's ability to detect and cope with noncomprehension, a skill that may be enhanced through instruction and preparation.

Children in Court

Children's increased participation in legal settings has brought considerable public and legislative attention not only to children's eyewitness memory but also to children's emotional capability to withstand legal proceedings. Courtrooms are austere, formal settings capable of intimidating adults, not to mention children. What do children know about the legal system, how does participation in it affect them, and what can be done to aid children while still protecting the rights of the accused?

Children's Legal Knowledge

Research adds to our understanding of children's expectations and fears of the legal system. Children have limited legal knowledge. Children possess misunderstandings and unrealistic as well as realistic fears of the legal process (Cashmore & Bussey, 1990; Flin et al., 1989; Melton, Limber, Jacobs, & Oberlander, 1992; Saywitz, 1989; Warren-Leubecker, Tate, Hinton, & Ozbek, 1989). As might be expected, with age, children show increasing knowledge of legal terms. One might suspect increasing knowledge comes from greater exposure to legal concepts. Although this is undoubtedly

true, developmental differences in legal knowledge are not just a matter of exposure. Two studies indicate that children who were involved directly in the legal system showed *less* accurate knowledge and *more* confusion than age mates without legal experience (Melton et al., 1992; Saywitz, 1989).

By 10 years of age, most children understand the basics of the investigative and judicial process. Ten-year-olds grasp the functions of the various court personnel, and they have rudimentary notions of legal representation and the adversarial process. Younger children, 4 to 7 years of age, are aware of court personnel, but their conceptualizations are based on observations of overt behavior (e.g., "The judge is there to sit at a high desk and bang the hammer. He wears a black gown; I don't know why."). These younger children may not be aware that the judge is in charge of the courtroom. Young children have little conception of invisible abstractions, such as laws, rules of evidence, or trial procedures. Children younger than age 10 do not fully understand the decision-making role of the jury or judge, often assuming that jurors are mere spectators (Saywitz, 1989; Warren-Leubecker et al., 1989). On the other hand, children as young as 5 years of age understand the need to tell the truth in court (Cashmore & Bussey, 1990; Saywitz, 1989). Although younger children cite fear of punishment as the reason for telling the truth, older children understand the fact-finding purpose of the trial.

Many authors speculate that lack of knowledge can adversely affect the quality of children's evidence because anxiety associated with fear of the unknown disrupts memory performance (Cashmore & Bussey, 1990; Flin, 1993; Melton & Thompson, 1987; Sas et al., 1991; Saywitz, 1989; Saywitz & Snyder, 1996). Even when age is taken into account, children with less legal knowledge express more anxiety about testifying in mock trials (Goodman, Tobey, et al., 1998). However, studies have not shown a definitive link between lack of legal knowledge and poor memory performance in the forensic setting, although at least one study uncovered a positive correlation between legal knowledge and accurate answers to specific questions posed in a mock trial (Goodman, Tobey, et al., 1998).

Other support for the hypothesis that court-related fear disrupts memory performance comes from experimental studies that concern eyewitness testimony when

children are questioned in a courtroom (involving a simulated trial environment) compared with a school or a private room (Hill & Hill, 1987; Saywitz & Nathanson, 1993; Saywitz, Nathanson, Snyder, & Lamphear, 1993). These studies show impaired recall and greater physiological correlates of anxiety (heart rate variability) when children are questioned in a courtroom atmosphere. It is unclear, however, from these studies if knowledge of courtroom procedures mediates the results.

Also germane are studies showing inhibited performance on identification tasks associated with confrontational stress at the time of questioning (Dent, 1977; Peters, 1991).

It is possible that in actual trials, children who are more knowledgeable about the legal system will show greater anxiety than less knowledgeable age mates because the more knowledgeable children would know, for example, that an attempt would be made to discredit their testimony in court. Older children and girls have been found to express greater negativity about testifying than younger children and boys (Goodman, Pyle-Taub, et al., 1992), and older children who experience harsh cross-examination in court fare less well emotionally (Whitcomb et al., 1992). Further research is needed to address the relation between legal knowledge, the stress of testifying, and eyewitness performance.

Fears of court expressed by both child witnesses and peers with little or no legal experience include fears of public speaking, losing self-control on the stand, and not being believed (Cashmore & Bussey, 1990; Sas et al., 1991; Saywitz & Nathanson, 1993). Children also express concern that as a witness they would have to prove their own innocence in court. Some children fear they will be punished or sent to jail for making a mistake. In addition, child witnesses express fear of facing the accused in court, retaliation, and physical harm to self or loved ones, especially if threatened not to tell. In intrafamilial cases of abuse, children express fear of angering family members if negative consequences are anticipated, such as loss of income. Although many of these fears also are expressed by adult rape victims (Katz & Mazur, 1979), children's emotional immaturity is likely to make them more vulnerable than adults to these fears.

In summary, as might be expected, children are relatively naive about the intricacies of the legal system and even about com-

mon legal terms that are used in court. Children have fears about testifying. One could well question the adequacy of the courtroom as an ideal setting for obtaining complete and accurate testimony from children. Although the courtroom is also less than an ideal setting for adult victim/witnesses, children's emotional and cognitive immaturity places them at an even greater risk of adverse effects.

Effects on Children of Legal Participation

What are the effects on children of participation in the legal system? A number of studies suggest that at least for a subset of children, involvement as witnesses in the criminal justice system is associated with the prolonging of emotional distress (e.g., DeFrancis, 1969; Goodman, Pyle-Taub, et al., 1992; Oates & Tong, 1987; Runyan, Everson, Edelson, Hunter, & Coulter, 1988). In contrast, involvement as a witness in the juvenile justice system has not been found to be associated with increased emotional problems (Runyan et al., 1988). Next, we review research on some of the stressors for children who become involved as victim/witnesses in prosecutions of child sexual abuse.

One stressor for children that is inherent in the criminal justice system concerns repetition of interviews by different persons. When children are involved in forensic investigations and prosecutions, the children may be interviewed more than once. Police, social workers, investigators, clinicians, attorneys, and judges may all have occasion to interview the child. Concerns about multiple interviews revolve around possible adverse effects on children's emotional well-being (e.g., by forcing them, in effect, to reexperience the trauma multiple times by having to describe it over and over), intensification of children's feelings of self-blame and guilt about the abuse experience (Runyan et al., 1988), and promotion of inaccuracies in children's memory (Ceci & Bruck, 1995). On the other hand, repeated interviewing can help consolidate accurate memory (Brainerd & Ornstein, 1991). Research reveals that a greater number of interviewers or interviews is associated with lower ratings of perceived helpfulness of the legal system and higher scores on measures

of traumatization (Henry, 1997; Tedesco & Schnell, 1987). Fortunately, many jurisdictions have established children's advocacy centers (also called multidisciplinary interview centers) to reduce the number of times children are interviewed.

Perhaps the quintessential stressor for children is testifying face-to-face with the defendant in court and submitting to cross-examination.

Perhaps the quintessential stressor for children is testifying face-to-face with the defendant in court and submitting to cross-examination. Several studies confirm that testifying face-to-face with the accused in criminal court is associated with continued distress in a subset of children (Goodman, Pyle-Taub, et al., 1992; Whitcomb et al., 1992). Factors such as facing the defendant, harsh cross-examination, and lack of corroborative evidence have been identified as contributing to the distress testifiers often experience. However, even anticipation of testifying in criminal court is associated with children's increased distress and anxiety (Berliner & Conte, 1995). Feelings of helplessness and fear may increase as the scheduled day for testifying approaches, even though only a subset of children subpoenaed to court actually take the stand. (Defendants frequently accept plea bargains at the last minute, relieving the child of the need to testify.)

Another stressor concerns the length of the legal process. Research reveals that when legal cases are prolonged and unresolved, children are likely to continue to score relatively high on measures of depression. These findings are maintained regardless of whether children testify, their age, and the abuse characteristics (Runyan et al., 1988).

These are just some of the stressors for children in the legal system (for reviews, Edelstein et al., in press; Spencer & Flin, 1993). Research has concentrated more on the stressors than on factors that can buffer the distress. Nevertheless, one factor has consistently emerged as a buffer for child witnesses. Specifically, maternal support can moderate the potentially adverse effects of

children's legal involvement. Maternal support at the time of disclosure of abuse is a predictor of children's well-being (Everson, Hunter, Runyan, Edelsohn, & Coulter, 1989; Sas, 1993), and maternal support is also important throughout the legal case. Lack of maternal support is associated with adverse mental health outcomes for children who testify and is a predictor of children feeling negative about legal involvement more generally (Goodman, Pyle-Taub, et al., 1992).

Clearly, participation as a victim/witness can at times be a stressful experience for many children. However, research findings on the effects of legal involvement are likely to vary over time because of changes in legal procedures affecting children. For instance, in the United States, use of children's advocacy centers may affect children's reactions to legal involvement. In some European countries, such as England, dramatic legal reforms for child victim/witnesses include use of videotaped forensic interviews in place of in-court direct examination and use of closed-circuit (live-link) television during cross-examination, both of which limit or prevent face-to-face confrontation. Several such reforms are discussed in the next section of this chapter.

Improving the Process

Given that children may be required to become involved in legal investigations and testify, are there ways we can improve the current system? Are there ways we can help prepare children for the experience?

Researchers are investigating the efficacy of legal reforms thought to improve the investigative and judicial process (e.g., Goodman, Quas, Bulkley, & Shapiro, 1999; Whitcomb et al., 1992). The goal of these reforms is to elicit the most accurate information from children in the least stressful manner. The reforms include scientifically based techniques for interviewing children, special methods to prepare children for court, implementation of multidisciplinary interviewing teams, and use of innovative courtroom procedures, such as closed-circuit television. Here we discuss the results of these initial efforts to improve the quality of children's testimony and reduce their stress.

Interview Instructions

Researchers are beginning to examine the effects of giving children instructions before the interview. For example, techniques for increasing children's resistance to suggestive questions are being studied. Researchers have warned children that questions might be tricky (Warren, Hulse-Trotter, & Tubbs, 1991) or that admitting lack of knowledge ("I don't know") is preferable to acquiescence (e.g., Saywitz & Moan-Hardie, 1994). Initially, researchers found no effects of simple instructions giving children permission to say "I don't know" before a memory interview (Moston, 1987). More recently, however, three sets of researchers have increased children's use of "I don't know" in response to misleading questions when children are given reminders during the interview or practice with feedback before the interview (Howie & O'Neill, 1996; Mulder & Vrij, 1996; Saywitz & Moan-Hardie, 1994).

For example, in two preparation studies, children were warned that when an interviewer was not present at the event in question, he or she could not know what really happened, but he or she might inadvertently put a guess into the question. Then children were discouraged from "going along" with the interviewer's guess and encouraged to admit lack of knowledge ("I don't know") or to tell the answer if known (Saywitz & Moan-Hardie, 1994). Before the interview, children practiced resisting misleading questions about unrelated events in the waiting room. The children received positive feedback when appropriate. Children prepared in this manner resisted significantly more misleading questions than children in control groups.

Some evidence suggests that instructions might promote children's motivation and effort in the interview (e.g., "Do your best" and "Try your hardest to listen carefully and tell everything you remember."). Children may not always recognize that the forensic interview is a situation demanding high levels of attention and effort. Impulsive or careless answering might heighten rates of acquiescence to adult suggestion. 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, or poor

concentration, that could affect effort and motivation. Compared with a no-instructions scenario, motivating instructions were associated with more complete free recall of a staged event for preschoolers and school-age children (Dorado & Saywitz, 2001; Saywitz & Snyder, 1996; Saywitz et al., 1996).

Innovative Questioning Formats

Recently, a number of innovative interview formats and protocols have been developed. Several have been tested empirically. The *cognitive interview* has received considerable attention because of its potential as a possible means of obtaining detailed information from children in a nonleading format. The cognitive interview is a collection of memory enhancement techniques based on principles of cognitive psychology. It has been shown to elicit 35% more information from adults than standard police interviews (Geiselman & Fisher, 1989). The four basic retrieval aids that comprise the bulk of the cognitive interview are (a) mentally reconstructing the context at the time of the crime; (b) reporting even partial information, regardless of perceived importance; (c) recounting events in a variety of orders; and (d) reporting events from a variety of perspectives. The cognitive interview has been revised for use with children (Fisher & McCauley, 1995; Saywitz et al., 1992; for a review, see Fisher, Brennan, & McCauley, in press).

Studies of children have revealed positive results when comparing the cognitive interview to standard police interview techniques (better recall without increased error) or no differences in one study when compared to motivating instructions in a brief interview by college students (Memon, Cronin, Eaves, & Bull, 1996, Experiment 2).

In one study, the revised cognitive interview was tested with 7- to 12-year-olds who were interviewed by experienced, off-duty police officers, resulting in a 26% improvement over standard police interviews and a 45% improvement over standard police interviews when children were given practice using the retrieval aids prior to the interview (Saywitz et al., 1992). Researchers find one component of the cognitive interview, the change-perspective task, difficult for young children. Some recommend that it be reserved for adults until there is further study of its effects with children (Fisher &

McCauley, 1995; Saywitz & Geiselman, 1998).

Another new questioning technique, *narrative elaboration*, is designed to increase the detail and relevance of information children provide without the use of leading questions (Camparo et al., 2001; Dorado & Saywitz, 2001; Saywitz & Snyder, 1996; Saywitz et al., 1996). In line with the notion that interviewers should use the least leading approaches first, the narrative elaboration procedure is intended as an interim step between free recall and leading questions to help children elaborate on free recall in their own words. Children learn that the interviewer expects them to provide the most independent, detailed, and forensically relevant report possible in their own words with the fewest number of questions asked by the interviewer. Before the interview, children practice reporting the details of an unrelated event (e.g., morning routine for getting up, dressed, fed, and transported to school) with feedback. They are taught to provide a high level of detail regarding four categories of forensically relevant information (the participants, setting, actions, conversations). Children use four cards that depict an unbiased reminder of each category (e.g., participants card depicts a stick figure; setting card depicts a line drawing of a house and yard).

When children are questioned about the event under investigation, they are asked an open-ended free-recall question after which they are shown each card and asked simply, "Does this card remind you to tell something else?" In four separate studies of recall for staged events, children (ages 4-12) responded to the cards with additional accurate details and without generating more error than comparison groups. In one study, 6- to 11-year-olds using this technique evinced a 53% greater increase in accurate information about a past school activity than did children in a control group who received no intervention (Saywitz & Snyder, 1996).

These studies begin to suggest that relatively unbiased retrieval aids can be developed to help children overcome the incompleteness of their spontaneous free recall without resorting to leading questions. However, if these aids encourage elaboration and increase children's productivity when children are questioned about fictitious events, false reporting could increase as well. One study of staged and fictitious events compared standard interview formats (free recall followed by specific questions) to the narrative elaboration format

(free recall followed by an opportunity for elaboration using reminder cards before specific questions) (Camparo et al., 2001). The results suggest that when children report an event in free recall but provide few details, narrative elaboration is successful at helping children report additional accurate detail without generating any more error than standard interview formats. However, when children who deny that an event occurred in free recall continue to be vigorously questioned about the fictitious event nonetheless, a small number of children may respond to the cards with false information that would not otherwise have occurred, although the majority do not.

Another team of researchers (see Sternberg et al., 1996) has developed a *structured interview protocol* derived from the results of laboratory research but tested with investigative interviews in actual cases. The impetus for the protocol derives from the fact that several studies have found that even trained interviewers tend to abandon open-ended questions too quickly and resort prematurely to suggestive questions (Aldridge & Cameron, 1999; Craig, Scheibe, Kircher, Raskin, & Dodd, 1999; Sternberg et al., in press; Warren et al., 1999). Research indicates that the structured protocol helps interviewers ask more open-ended questions, and these questions elicit more details per question than option posing (yes-no and forced choice) and suggestive questions (Hershkowitz, Lamb, Sternberg, & Esplin, 1997; Lamb, Hershkowitz, Sternberg, Boat, & Everson, 1996; Lamb, Hershkowitz, Sternberg, Esplin, et al., 1996). Although the overall number of details does not appear to increase with use of the structured protocol (Orbach et al., 2000; Sternberg et al., 1999), the researchers point out that because a higher proportion of the details are elicited through open-ended questions, they are likely to be more accurate. The researchers are currently testing whether the structured protocol indeed improves accuracy, which requires a laboratory setting in which the accuracy of the child's statements can be objectively measured.

Sternberg, Lamb, and colleagues' structured interview protocol includes rapport building and instructions that teach children to indicate when they do not understand a question, acknowledge when they do not know the answer to a question, and resist suggestive questions. The abuse-specific portion of the interview introduces the topic by asking the child why he or she came to

talk to the interviewer. If the child does not reveal abuse, the interviewer asks a series of increasingly focused questions but avoids naming the alleged perpetrator or specifying the alleged act. These questions include the following: "I heard that you saw a policeman last week. Tell me what you talked about" and "Tell me why you think your mom brought you here today."

If the child discloses abuse, the interviewer responds, "Tell me everything that happened to you, from the beginning to the end, as best as you can remember." The interviewer prompts the child to provide more information through open-ended questions regarding the order of events, such as, "Tell me what happened next," and then open-ended questions regarding specific details, such as, "Tell me more about [a detail mentioned by the child]." If the interviewer does feel compelled to ask a more focused question (e.g., "Where were your clothes?"), he or she would follow up with an open-ended question (Child: "He took them off." Interviewer: "Tell me everything about how they got off."). After the initial free narrative is complete, the interviewer asks, "Did that happen one time or more than one time?" and if the child responds "more than one time," the interviewer asks the child to describe the "last time something happened," the best-remembered time, the first time something happened, and any other time the child remembers.

As mentioned earlier, interviewers trained in use of the protocol ask more open-ended questions and fewer option-posing questions, and children interviewed under the protocol produce more details in response to open-ended questions (Orbach et al., 2000; Sternberg, Lamb, Esplin, & Baradaran, 1999).

There is some evidence, however, to suggest that this protocol is less useful with preschoolers (Hershkowitz, Orbach, Lamb, Sternberg, & Horowitz, 2001; Lamb, Hershkowitz, Sternberg, Boat, & Everson, 1996; Lamb, Hershkowitz, Sternberg, Esplin, et al., 1996; Sternberg et al., 1996; Sternberg et al., 1997) and reticent children (Hershkowitz & Elul, 1999). This evidence is consistent with findings from a study in England by Davies et al. (2000). In that study, researchers analyzed videotapes from 36 forensic interviews of 4- to 14-year-olds in child sexual abuse cases. Longer answers were elicited from 12- to 14-year-olds in response to open-ended questions versus closed and specific (but not highly leading)

questions, but this pattern was basically reversed for the younger two age groups. Further research is under way to better understand the conditions in which highly structured protocols are most beneficial.

Reforming the Investigative Process

Studies have identified characteristics of the investigative process that can compromise memory for detail and interfere with a child's psychological recovery from trauma (Ceci & Bruck, 1993; Goodman, Pyle-Taub, et al., 1992; Tedesco & Schnell, 1987). These include protracted investigations, developmentally insensitive personnel, repeated interviews or court appearances, and multiple interviewers. Investigations conducted by multidisciplinary teams with a high level of coordination among law enforcement and social service agencies are thought to produce more accurate and complete information with less stress placed on children. When such teams are employed, a single interviewer (e.g., a police officer) may question the child, having consulted first with officials from relevant agencies (e.g., social services) on important questions to ask. In some settings, such officials watch behind a one-way mirror to reduce the need for subsequent interviews.

One field study examined the effectiveness of such a team approach on the investigative process (California Attorney General's Office, 1994). Cases before and after the implementation of a multidisciplinary child interview center (MDIC) were examined: 177 consecutive cases of suspected child sexual abuse reported to police in Sacramento County, California, were compared with 212 cases investigated after institution of a countywide MDIC. The center was associated with significantly fewer interviews, interviewers, and interview settings per case. Furthermore, children themselves rated the center-based interviews more positively than standard practices. Unfortunately, data were not collected on the number of additional interviews during the judicial phase of cases. Therefore, it is not possible to know how the MDIC affected interview patterns at later stages. There was no evidence that the MDIC affected the rates at which charges were filed in courts. Hence, factors thought to be associated with stress and contamination (repeated inter-

views) were reduced, but the costs associated with these benefits remain unknown.

Preparing Children for Court

Preparation is one of many factors that can influence children's testimony and their subjective experience of the process (see Spencer & Flin, 1993). Attorneys who prepare children for court typically include a tour of the courtroom and perhaps a cursory review of the facts of the case. Although preliminary studies suggest a tour of the courtroom is indeed beneficial for children in reducing anxiety (Goodman, Sachsenmaier, et al., 1992), these steps alone are not sufficient to prepare children for the communicative, cognitive, and emotional challenges witnesses face (Saywitz & Snyder, 1996). Moreover, young children's limited knowledge of the legal system leaves them ill equipped to understand the context and function of their testimony. They possess a limited repertoire of coping strategies to prevent anxiety from interfering with ability to testify optimally.

Recently, court schools designed to prepare children for the judicial process have appeared around the country. Some are operated by prosecutors and are approved by the judicial administration. Others are operated by social service or mental health agencies. Typically, the content is focused on educating children about courtroom personnel and their functions. Sometimes, programs include anxiety reduction techniques as well. The degree to which the facts of individual cases are discussed during court school sessions seems to vary widely. However, some programs prepare children in groups and prohibit discussion of individual cases to avoid contamination of testimony.

By and large, the efficacy of such programs has not been tested empirically. Because there is little systematic evaluation of these programs, it is difficult to determine which, if any, of the components of these programs actually improve children's performances and reduce stress. Also, there is insufficient evidence that such efforts are free of side effects that could influence children's testimony in unintended ways.

One preparation program has been subjected to systematic evaluation (Sas et al., 1991). In Canada, alleged victims of abuse received either status quo services from the Victim Witness Assistance Program or individual preparation focused on demystifying

the process with education and anxiety reduction techniques such as relaxation training. Children receiving the experimental preparation gained more knowledge of the legal system and showed less generalized fear and less abuse-specific fear (e.g., fears of revictimization). Nevertheless, group differences in fear of testifying or fear specific to court were not found.

From this study, the effects of preparation on the accuracy of children's testimony could not be evaluated because there was no record of the crime under investigation against which to compare the accuracy of the children's memory. When children from the preparation program testified in court, however, the case was more likely to be associated with a conviction than when children from the regular services group testified. Whether this can be linked to children's performance on the stand requires further investigation. Attorneys rated children from the preparation program as better witnesses; unfortunately, the attorneys were not blind raters and may have been invested in the success of the program to which they referred their clients. Despite the limitations in this study, it is the first of its kind and an important springboard for future research.

In addition to field studies of ongoing programs, there is a need for experimental analog studies that examine the effects of preparation on children's reports of previously staged events. In this way, children's reports with and without preparation can be compared to a record of the event in question to examine both positive and negative effects on accuracy. Researchers have begun to examine the effects of legal education and anxiety reduction techniques on accuracy (Saywitz et al., 1993). Preliminary results suggest that although children learn a great deal about the system and appear less anxious when prepared, increased accuracy and reduced fear of testifying have been difficult to document. This is partially due to the lack of sensitive measurement instruments, young children's limited ability to report anxiety, and differences between "normal" research subjects and abused children (e.g., in levels of motivation and anxiety).

Many of the clinical approaches to anxiety reduction are thought to be helpful to child witnesses. Techniques such as deep breathing, guided imagery, self-monitoring, and self-statements ("I can do it") are found to have beneficial effects in other contexts.

Examinations of their effects on memory are a fruitful area for further research.

Special Court Procedures

At present, most child witnesses are not given the benefits of special programs to prepare them to testify. What measures can be taken to make the courtroom more "child friendly"? Goodman, Pyle-Taub, et al. (1992) found that when children testified in criminal court, they were better able to answer questions and looked less frightened when a parent or loved one was permitted to stay in the courtroom with them. The children also cried less when the courtroom was closed to spectators. In contrast, children who were more frightened of the defendant had more difficulty answering the prosecutor's questions and later expressed greater negativity about having been involved in the prosecution.

In an attempt to shelter children from the intimidation of facing the defendant and from testifying in open court, closed-circuit television can be used in certain child sexual abuse cases (*Maryland v. Craig*, 1990). Such technology is being employed in England with encouraging results. For example, children appear as more fluent, confident, relaxed, and consistent witnesses when they testify via closed-circuit television (Davies & Noon, 1991; see also Cashmore, 1992). However, there is also an indication that jurors are more likely to mistrust a child's statements and that the child's testimony will have less impact on them when it is presented via closed-circuit television (Davies & Noon, 1991; Goodman, Sachsenmaier, et al., 1992; Goodman, Tobey, et al., 1998). District attorneys claim that the maximum impact is from the child testifying live (Goodman et al., in press). For this and other reasons, Israel is considering reverting back to increased use of live testimony for children rather than having child interviewers testify in children's place (I. Hershkowitz, personal communication, 2000).

It is possible that other formats for obtaining children's testimony will be even more beneficial to justice and to children; in the United States, there is evidence of public support for a variety of alternative means of gathering testimony from children (Batterman-Faunce & Goodman, 1993; Goodman et al., 1994), such as using children's courtrooms and having a neutral cli-

nician rather than an attorney take the child's testimony, the latter of which is permitted in some countries such as Norway. Strong empirical evidence that such procedures improve the fact-finding process are needed before the U.S. courts will be likely to consider them because they represent drastic changes to traditional procedures.

Practice Implications

The results of child witness research have a number of implications for children's performance in pretrial interviews and legal proceedings. Below, we discuss implications for interviewing children in forensic settings and for presenting their testimony in court.

Questioning Children

Studies suggest important age differences in children's responses to questioning. Different techniques will be required to elicit accurate information from children of different age groups. Interviewing protocols are needed that are sensitive to developmental differences in free recall, suggestibility, communicative competence, and socioemotional concerns (e.g., intimidation, embarrassment). Protocols also must be sensitive to individual differences among children and to different cultural expectations across ethnic groups.

Preschool children. Preschool children's special deficiencies—limited free recall, deference to adults, and source-monitoring errors—make them vulnerable to suggestion through coercive questioning. What is the interviewer to do? Interviewers must carefully consider the form, content, and context of their questions. Clearly, studies suggest there are question types to be avoided altogether such as tag questions (e.g., "He hurt you, didn't he?"), negative term questions (e.g., "Didn't he hurt you?"), or suppositional questions (e.g., "Where did he hurt you?" if the child has not mentioned hurting). Strongly worded accusatory questions and accusatory contexts should be avoided as well (e.g., "John hurt you, didn't he?" "Tell me about the bad things that bad man did to you."). They can affect the child's memory and the child's credibility adversely.

Although leading questions are to be avoided whenever possible, preschoolers

are likely to benefit from specific questions to trigger memory for additional information not provided spontaneously. Open-ended questions (questions that cannot be answered in a single word) that focus the child's attention on particular aspects of an event (e.g., "Tell me everything that you heard"; "Where did it happen?") can increase the completeness of young children's reports without decreasing accuracy (Hamond & Fivush, 1991; Hudson, 1990; Poole & Lindsay, 1995), even if repeated over interviews (see reviews in Fivush & Schwarzmuller, 1995; Poole & White, 1995).

Although leading questions are to be avoided whenever possible, preschoolers are likely to benefit from specific questions to trigger memory for additional information not provided spontaneously.

Children are often most resistant to leading questions about central actions, but at times, even statements concerning central actions can be contaminated through the use of leading questioning. Important individual differences exist in children's responses, with many children retaining accuracy in the face of specific questioning, especially in regard to salient abuse-related actions such as nakedness. The majority of false reports that do occur in research studies are often limited to false affirmations of misleading yes-no questions (e.g., "He touched your private parts, didn't he?"), although some children will provide false detail as well, perhaps especially if multiply suggestive, repeated questioning occurs. If interviewers use yes-no questions with children, follow-up questions that require children to explain their answer in their own words (e.g., "What makes you think so?") could be critical to untangling the meaning of children's answers. Interviewers must remain as open-minded as possible rather than pursue an "agenda," especially when corroborative evidence is lacking.

To bolster the reliability of preschoolers' reports, interviewers should carefully consider the language, content, and suggestiveness of questions. Interviewers can keep misunderstandings to a minimum by keeping questions short, grammatical construc-

tions simple, and vocabulary familiar. Accuracy is also promoted when questions concern events that are salient and meaningful to children and when question content is matched closely to children's knowledge and experience. Accuracy can be facilitated when hesitant preschoolers are not pressured, coerced, or bullied into answering questions by authority figures. Inconsistencies can be probed by professing confusion, not by challenging children. Suggestibility may be reduced when interviewers are neutral or supportive of children's efforts but do not praise them for providing specific content. Interviewer bias can be reduced when interviewers take an objective, nonjudgmental stance on both nonverbal and verbal levels (e.g., tone of voice, facial expression, wording of questions). This does not preclude empathic comments to overcome children's anxiety. It does imply that an accusatory climate must be avoided, for example, one in which suspects are labeled as "bad" and assumed to have done "bad things."

Preschoolers can be inconsistent in their retelling of past events across multiple interviews (Fivush, 1993; Fivush & Shukar, 1995). Different settings and different questioning styles can result in disclosure of different pieces of information at different points in time. More complete and detailed renditions can be expected from children in familiar and informal settings than in unfamiliar, formal, and anxiety-provoking settings (Ceci, Bronfenbrenner, & Baker, 1988; Saywitz & Nathanson, 1993; Saywitz et al., 1993). The practice of equating inconsistency with false information should be re-evaluated in light of these findings.

On one hand, a generic or general question may be best for avoiding any hint of suggestion. On the other hand, such questions can elicit irrelevancies and inconsistencies from preschoolers. For example, when asked, "Did he put *something* in your mouth?" a young child is likely to answer no. If asked more specifically, "Did he put a *thermometer* in your mouth?" the same child is likely to say yes, responding accurately about a physical examination (Saywitz et al., 1991). When asked if he or she saw a weapon after witnessing a shooting, a preschooler is likely to answer no. If asked more specifically, "Did you see a gun?" the same child is likely to respond yes. Hierarchical, conceptual categories, such as *weapon*, may not be understood, but concrete, familiar objects, such as *gun*, may be

understood well. Although the more general term is less leading, it can create inconsistencies and errors. Preschoolers reason on the basis of what they can see and visualize (specifics) rather than on abstract concepts and principles (generalities).

Sexual abuse investigators will probably find it difficult to elicit complete narratives from genuinely abused children without resorting to some specific questions. To determine the appropriate charges, prosecutors need to know certain specific information (e.g., was force involved, was the abuse repeated). Children who are reluctant to disclose embarrassing experiences are more likely to acknowledge those experiences if asked specific questions than if asked for free recall (Saywitz et al., 1991). Similarly, specific questions are more effective than recall questions in eliciting reports of wrongdoing that children have been told to keep secret (Wilson & Pipe, 1989). Specific questions may also help to overcome younger children's limited productive vocabulary, particularly for sexual topics (Schor & Sivan, 1989), and younger children's limited understanding of what information is important or expected (Fivush, 1993).

Obtaining the most complete and accurate reports from preschoolers remains a challenge. Sandra Hewitt (1998) devotes an entire book to the subject. Practitioners can anticipate an expanding body of relevant research that can inform decision making in the field. No doubt, today's techniques will need to be revised and updated tomorrow.

Elementary-age children. Elementary-age children (5 to 11 years of age) show both strengths and weaknesses. Under certain conditions, their performance may exceed that of adults (e.g., reporting details that go unnoticed by grown-ups). Under many other conditions, elementary-age children show noteworthy limitations. Individual practitioners need to conduct a cost-benefit analysis on a case-by-case basis, combining clinical judgment with knowledge of the dangers of leading questions.

Because children within this age range often can provide detailed narratives of events, inquiry can begin with open-ended questions to elicit free recall. Then, children can be prompted to elaborate on their narratives in a nonbiased manner with comments such as, "Tell me a little more," "What happened next?" or repeating the end of their last sentence with a rising

intonation. Although capable of providing accurate narratives, free recall is still likely to be incomplete, and specific follow-up questions may be necessary. Research and clinical literature have suggested that interviewers proceed from narrative elaboration to open-ended questions ("What was the weather like that night?" "What kinds of clothes was she wearing?") and then to specific, short-answer questions ("What color was her scarf?"), reserving closed questions (yes-no, multiple choice) for the end, if used at all (Lamb, 1994; Lamb, Hershkowitz, Sternberg, Boat, & Everson, 1996; Lamb, Hershkowitz, Sternberg, Esplin, et al., 1996; *Memorandum of Good Practice*, 1992; Saywitz, 1994, 1995; Saywitz & Geiselman, 1998). Research results suggest that yes-no questions must be dealt with cautiously but need not be avoided totally (Peterson & Bell, 1996; Saywitz et al., 1991). Such questions can be followed by attempts to elicit elaboration ("Tell me more") or justification ("What makes you think so?") to avoid misinterpretation. The ensuing explanation helps determine how much or how little weight to place on a child's response.

Some interviewers deem it necessary to ask specific questions about information that may not otherwise be reported (e.g., sexual or injurious contact) for a variety of reasons (e.g., the child's embarrassment or fear of retaliation). Research on elementary-age children's accuracy in the face of leading or misleading questions suggests that elementary-age children are more resistant than preschool children (e.g., Goodman & Reed, 1986). Interviewers also need to be aware of the possibility of lying or coaching.

School-age children may benefit from learning about the investigative and judicial process (Sas et al., 1991; Saywitz et al., 1993). These children have a better understanding of the broader context in which the interview occurs, the purpose of questioning, the role of the interviewer, and the limits on confidentiality. This could facilitate increased familiarity and decreased anxiety, resulting in improved interview performance.

School-age children benefit from a warning that they might not understand all the questions and from instructions to announce when they do not understand (Saywitz & Snyder, 1996). As discussed earlier, studies suggest that children benefit from preinterview practice with strategies

for detecting and coping with noncomprehension (Saywitz & Snyder, 1996).

Inconsistencies or contradictions in children's statements can result from a variety of interview-induced sources, such as developmentally inappropriate wording of questions. These can be reduced or eliminated when questions are well matched in vocabulary and linguistic complexity to the school-age child's stage of language acquisition. For example, elementary-school children's knowledge of common legal terms cannot be assumed. Children may think they understand a term's meaning when, in fact, they and the adult interviewer have a different meaning in mind. When asked, "Do you know what testify means?" a child may answer yes but may be thinking about taking a test. In general, interviewers need to avoid or compensate for linguistic forms that are slow to develop.

If children have to testify, elementary-school children should be helped to reduce the gap between everyday rules of conversation and the language of the courtroom. For example, interview questions often jump from one topic to another without the necessary transition for children to switch frames of reference (Brennan & Brennan, 1988). Children become disoriented. They require transitional comments to signal a change of topic that may be rare in the courtroom context. For example, "Before, we were talking about school. Now I want to ask you about your vacation."

Adolescents. For many forensic purposes, the interview performance of children older than age 11 can be expected to be comparable to that of a large number of adults, at least in terms of quantity and quality of memory, resistance to suggestion, legal knowledge, comprehension of questions, and formulation of verbal responses. Unfortunately, few studies directly concern teenagers' testimony about sexual matters (but see Bidrose & Goodman, 2000; Eisen et al., 2001). Therefore, developmental differences in interview performance due to the effects of emotions (e.g., embarrassment), self-image, and coping strategies have not been well researched. Likewise, the interaction between interview performance and individual differences in expressions of stress and psychological disturbance (e.g., posttraumatic stress disorder) has yet to be understood fully. Even older children may differ substantially from adults in these re-

spects. Because research on adolescents' testimony in regard to sexual abuse allegations is lacking, we hesitate to provide many guidelines concerning the interviewing of adolescents.

Limits of current knowledge. Despite the age-related trends described earlier, there is danger in generalizing to individual cases using research studies based on averages and probabilities. It is important to note that a given child may be delayed or advanced for his or her age in one or more domains of development. A child with excellent verbal skills for his or her age may nevertheless have poor retrieval strategies and inferior recall of details, especially if the child is intimidated or frightened more easily. Moreover, the ecological validity of research studies is limited. Much of the most recent research on suggestibility examines the effects of highly leading techniques on preschool-age children and is of questionable applicability to grade-school children questioned in a more routine manner. Moreover, the research on suggestibility rarely takes account of factors such as fear, loyalty, and embarrassment, which make children less likely to make false claims of sexual abuse and make truly abused children reluctant to reveal (Lyon, 1999).

Studies have not produced a single, proper method for interviewing child victim witnesses that can be held out as the standard by which all questioning should be conducted. The proper balance between open-ended and specific questions is in part a question for researchers but also entails value judgments regarding the trade-offs between false affirmations and false denials. Even with more research, the judgment of experienced professionals is needed to apply one or more of a variety of interviewing strategies.

It seems fair to conclude that when children are questioned as if they were adults, their testimony can be contaminated and their credibility undermined; children misunderstand complex questions, adults misinterpret children's responses, and children fail to clarify their meaning. An accepting, unbiased environment that poses understandable questions in an objective yet empathic climate should be created to maximize reliability and minimize suggestibility. The interviewer builds a bridge between the world of the child and the world of the adult

to create the best opportunity for the discovery of truth.

Court Appearances

Research permits implications to be drawn in regard to children's courtroom testimony. Special approaches for preparing children to testify and for reducing their anxiety hold promise in bolstering children's abilities to withstand the lengthy and stressful criminal justice system. However, such programs and approaches must be considered carefully in each jurisdiction to ensure that they meet with attorneys' approval so that challenges to children's credibility are minimized.

Factors such as lack of maternal support, the need to testify multiple times, harsh cross-examination, victim age, and fear of the defendant should be considered in predictions that children may suffer stress from the legal process.

Legal professionals need to be aware that a certain subset of children who testify may be particularly vulnerable witnesses. Research indicates that such factors as lack of maternal support, the need to testify multiple times, harsh cross-examination, victim age, and fear of the defendant should be considered in predictions that children may suffer stress from the legal process (Goodman, Pyle-Taub, et al., 1992). For children who are at risk of stress from legal involvement, protective measures, such as testifying via closed-circuit television, may prove particularly important (Cashmore, 1992; Davies & Noon, 1991). Although such techniques may reduce children's credibility in jurors' eyes, they may be, at times, the only reasonable and fair way of obtaining the testimony of a frightened child.

It should also be kept in mind that in the long run, the final outcome of the case—that is, whether the defendant is found guilty and whether the defendant receives a light or tough sentence—may be of particular importance to child victim/witnesses. A court

appearance may be empowering or devastating in the end, depending on the verdict and the sentence (Ghetti, 2000).

Conclusion

Research on children's testimony has provided valuable insights regarding children's abilities and needs as witnesses. Although many pressing questions still need to be explored, the research base has grown

substantially and provides a number of consistent findings. Perhaps the most important finding is that age alone is not a measure of a child's ability to provide accurate testimony or withstand court appearances. Instead, the context in which a child is questioned and in which the child testifies can help bolster or undermine a child's performance as well as a child's emotional resilience. The task is to find optimal interview techniques and contexts to help children be as accurate and resilient as possible.

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