INVESTIGATIVE INTERVIEWS OF CHILDREN: A REVIEW OF PSYCHOLOGICAL RESEARCH AND IMPLICATIONS FOR POLICE PRACTICES

KAMALA LONDON
University of Wyoming

Historically, children were considered incompetent courtroom witnesses. However, legal barriers that once prevented children from offering court-room testimony have been largely removed. In recent decades, police agencies have been flooded with reports of child maltreatment. In response to the increasing presence of children in forensic settings, researchers have begun to examine the efficacy of methods used to interview children. The purpose of this article is to review recent research on interviewing children. Both interview practices that appear effective in eliciting accurate testimony and practices that have been shown to produce erroneous testimony from children are discussed. Implications for police practices and policy are discussed.

In the 1970s, there was a shift in societal and legal views toward family privacy issues. Whereas events that occurred among family members were once considered private affairs, the 1974 Federal Child Abuse Prevention and Treatment Act mandated that professionals such as physicians, teachers, police, and social workers report suspected cases of child maltreatment. As reporting and public awareness of child abuse increased, child welfare agencies and police were flooded with suspected cases of abuse.

As a response to children's increasing presence in the legal system, researchers began to empirically study children's ability to give accurate testimony. The purpose of this article is to review the psychological

research pertaining to interviewing child victims-witnesses. Interview guidelines based on psychological research are reviewed. Furthermore, implications for police practices are discussed in light of the psychological empirical work.

Until the 1980s, children were generally required to pass extended *voir dires*, or tests of their competency, before being allowed to give courtroom testimony (Ceci & Bruck, 1993). For instance, children were once required to demonstrate an understanding of "truth versus lie." Children under certain ages were sometimes forbidden from giving testimony, because their autobiographic memories were considered questionable (Ceci & Bruck, 1993). The courts no longer require that children undergo competency hearings but rather let the jury decide how much weight to give children's testimony. Also, in the 1980s, all states dropped former requirements that children's allegations of sexual assault be corroborated by either physical evidence or by adult witnesses (Ceci & Bruck, 1993). In sum, many legal barriers that once discouraged or prevented children from being the sole complainant to a crime were largely removed.

Children are increasingly seen in the courtroom (Ceci & Bruck, 1993; McGough, 1995). Child abuse and neglect are rampant problems, with American child protective services investigating around 2 million reports of alleged mistreatment in 1996 (U.S. Department of Health and Human Services, 1995). Considering that roughly one third of child sexual assault victims are younger than age 7 (Finkelhor, 1984), the tremendous need to develop and refine investigative interviews with children is evident.

In many crimes, particularly cases of suspected sexual abuse, the child victim is the sole witness (Yuille, Hunter, Jeffe, & Zaparniuk, 1993). Furthermore, physical evidence is often lacking in such cases. The child's eyewitness account may be the only evidence to support allegations of criminal activity. Therefore, it is imperative to attain complete and accurate eyewitness accounts from children. Eyewitness testimony is considered to be a primary determinant of whether a case is substantiated (Fisher & McCauley, 1995).

INVESTIGATIVE INTERVIEW TECHNIQUES AND FALSE ALLEGATIONS OF ABUSE

In the past 20 years, there has been a flood of research that has examined children's competency to act as court witnesses. Research suggests that children can often give accurate accounts of past events (e.g., Geiselman &

Padilla, 1988; Poole & Lamb, 1998). However, research has also revealed that children may give inaccurate or blatantly false accounts when interviewed with certain techniques (for reviews, see Ceci & Bruck, 1993; Poole & Lamb, 1998). Children's competency to give accurate testimony is dependent on the quality of the investigative interview techniques.

Although memory skills certainly improve with age, young children have demonstrated accurate recall of past events, particularly with regard to action-related salient events (Davis, Tarrant, & Flin, 1989). For instance, Poole and Lindsay (1995) found that 3- to 4-year-olds and 5- to 7-year-olds accurately recalled a recent event. Children in their study interacted with "Mr. Science," who did various demonstrations. For instance, "Mr. Science" showed the children how to lift newspaper print with silly putty. Children were interviewed with nonsuggestive techniques immediately following their interactions. Even 3- and 4-year-olds were highly accurate in their recall of the events.

Goodman and Reed (1986) provided further support of children's competency to accurately report on past events. They staged an event and questioned adults and 6-year-olds about the event after a 4- to 5-day delay. They found few age differences in testimony when children were asked objective questions. Although the 6-year-olds were more likely than the adults to be misled about periphery events, they generally were not misled regarding central events.

Although research suggests that children can give accurate accounts of past events, a sizable literature also reveals that children sometimes give inaccurate or blatantly false accounts when interviewed (for review, see Ceci, Bruck, & Battin, 2000). For instance, Poole and Lindsay (1995) conducted a follow-up interview with some of the children who participated in the "Mr. Science" project. The second interview was conducted after a 3-month delay. For 3 consecutive days prior to the second interview, children's parents read them stories about experienced and nonexperienced events pertaining to the "Mr. Science" project. The researchers then interviewed children with leading and nonleading questions. In the second interview, 41% of 3- to 4-year-olds reported having experienced fictitious events.

The now well-known case of Kelly Michaels raised researchers' attention to false allegations that may arise from suggestive interview techniques. Michaels, a 26-year-old nursery care worker at the Wee Care Nursery School in New Jersey, was charged with 115 counts of child sexual assault (CSA). Over a 7-month period of interviews, twenty 3- to 5-year-old

children accused Michaels of sexual assault. Their accusations included bizarre claims that certainly would have produced physical evidence. For instance, children accused Michaels of putting peanut butter on their genitals and of sodomizing them with knives, forks, and Lego blocks. Despite the lack of physical evidence to corroborate these claims, Michaels was convicted and sentenced to 47 years in prison. After serving 5 years in prison, the case was overturned by appeals, in part based on an amicus brief that was filed by numerous child witness researchers on Michaels's behalf.

Examinations of interview records clearly show that investigators in the Michaels case used highly suggestive questions, combined with bribery and intimidation of the children (Ceci & Bruck, 1993). Children were repeatedly interviewed until they were "good boys or girls" and provided the interviewer with abuse information. For instance, during one interview, a child was told, "You told us everything once before. Do you want to undress my dolly? Let's get done with this real quick so we could go to Kings to get Popsicles," (*State v. Michaels*, 1993). Following high-profile cases such as the Michaels case, researchers turned their focus to examining how different questioning techniques affect children's accounts. The results from these studies reveal a variety of ways that interviewers can taint children's testimony.

SUGGESTIVE QUESTIONS

The Kelly Michaels case and the "Mr. Science" project conducted by Poole and Lindsay (1995) suggest that children sometimes make false allegations. The true proportion of criminal allegations that are false is difficult to establish in actual abuse cases, particularly cases such as sexual assault in which physical evidence may be lacking. A frequently cited rate of false reports in the psychological literature is 5% to 8% of CSA cases. Moreover, false allegations of sexual abuse are estimated to be as high as 50% when the alleged victim is from a family currently undergoing a divorce and custody battle (Raskin & Yuille, 1989). Considering that around 200,000 new abuse allegations arise each year (Finkelhor, 1984), if 8% of abuse allegations are false, then an astounding 16,000 people would be falsely charged with CSA each year.

Sometimes false allegations may unintentionally result from conversations with well-intentioned adults. Parents, teachers, and child care workers seem to hold certain assumptions about behaviors that are indicative of abuse. For instance, if a teacher witnessed a preschool-aged child

masturbating, such behavior might be brought to the attention of authorities (remember, teachers are mandated to report suspected cases of child abuse). Indeed, researchers have found that sexual acting out is more common in sexually abused than nonabused children (Koocher et al., 1995). However, nonabused children may also display sexual behavior. Nonabused children may learn about sexual activity through a variety of modes, including peers, siblings, parents, or television. Sexual play is rather common among children, with around half of 2- to 5-year-olds estimated to engage in genital manipulation (Chess & Hassibi, 1986). Despite the long history of investigators, therapists, and parents assuming that abuse occurred based on behavior such as phallic drawings, there is not adequate validity in such behavior to be diagnostic of abuse (Buros, 1989). In sum, sexual knowledge may originate from a variety of sources, and sexual activity is relatively common among children.

Parents or teachers may become alarmed at a child's behavior and report their suspicions to social welfare agencies or police. However, some children may simply be displaying normal childhood behavior. Even in cases in which the child seems to clearly make an abuse allegation (e.g., "My bottom was licked at daddy's"), alternative explanations are possible (e.g., the family dog licked the child). However, investigators have traditionally assumed a priori that children who came to their attention were abused. Traditionally, investigators saw their role as collecting information to confirm the abuse (Ceci & Bruck, 1993).

Some investigators have used suggestive, leading questions to satisfy their perhaps well-meaning intentions of corroborating abuse (Ceci & Bruck, 1993; Warren, Woodall, Hunt, & Perry, 1996). Unfortunately, this hypothesis-confirming approach to conducting abuse investigations may elicit false statements from the child. Suggestive, leading questions may cause some nonabused children to assent to abuse. Numerous studies have found that children may succumb to suggestive questions (for a review, see Bruck & Ceci, 1999). Once false statements emerge, it is difficult to reliably distinguish between true and false reports, as false statements are often rich in detail (Bruck, Hembrooke, & Ceci, 1997).

In a mock eyewitness study, Ceci, Ross, and Toglia (1987) found that preschool children were especially apt to be misled by suggestive questioning. In their study, children were told stories and shown pictures about "Loren," who had *eggs* for breakfast and had a *stomachache*. A day later, children were asked the leading question of whether they remembered Loren who

had a *headache* because she ate her *cereal* too fast. The preschool-aged children frequently agreed with the leading question.

Interestingly, children tended not to succumb to misleading questions when interviewed by a 7-year-old child (Ceci, Ross, & Toglia, 1987, Experiment 2). Ceci et al. (1987) suggest that children see adults as authority figures and attempt to please the adult by agreeing with their questions. Therefore, children may be particularly susceptible to leading questions from authority figures such as police officers (Walker-Perry & Wrightsman, 1991).

On the other hand, Goodman and colleagues (e.g., Goodman, Aman, & Hirschman, 1987; Goodman, Hirschman, Hepps, & Rudy, 1991) have conducted numerous studies that suggest children may sometimes be resistant to suggestive questions. For instance, Goodman, Rudy, Bottoms, and Aman (1990) conducted a project in which 4- to 7-year-olds played with a clown and were interviewed about the event 10 to 12 days later. They found that children generally were resistant to misleading questions about the event. However, in this study, children were only questioned once by a non-intimidating adult. Even so, some children in the study did agree to suggestive questions that might be construed as indicative of abuse.

Although Goodman's research suggests that children's accounts may not be completely tainted by suggestive questioning (at least when questioned by a nonthreatening person during a single interview session), dozens of studies demonstrate that children are at risk of acquiescing to leading questions (e.g., Bruck, Melnyk, & Ceci, 2000; Ceci & Bruck, 1995; Ceci et al., 1987; Cohen & Harnick, 1980; Ornstein, Gordon, & Larus, 1992; Poole & Lindsay, 1995).

Once children agree to suggestive events, Ceci and colleagues (Ceci & Bruck, 1995; Ceci, Huffman, Smith, & Loftus, 1994) suggest that they may actually come to believe that the suggested events occurred. Young children sometimes have difficulties with memory-source monitoring (Ceci & Bruck, 1995; Taylor, Esbensen, & Bennett, 1994). Therefore, children may continue to report such nonexperienced events as having actually occurred when subsequently questioned.

In sum, using suggestive, leading questions during investigative interviews heightens the risk of eliciting inaccurate or erroneous reports from children—reports that may persist during subsequent interviews. Leading questions seem to emerge when the investigators seek to confirm rather than test the hypothesis that a child was abused. Leading questions are also quite likely to be challenged in court, potentially ruining the child's credibility.

The main implication for interviewing child witnesses that emerges from the suggestibility literature is that interviewers should take a hypothesis-testing rather than a hypothesis-confirming approach. With the hypothesis-testing approach, interviewers should consider whether factors other than abuse might explain some of the child's behavior. Interviewers should consider who first came forward with the abuse charges and any potential motivation that parents might have to encourage a child to make false allegations. Investigators should also consider base rate behavior of sexual play rather than viewing sexual play as a confirmation of abuse. Clearly, leading questions should be avoided.

REPEATED QUESTIONS

Repeated questioning may also lead children to report false allegations of abuse. The effect of repeated interviews on children's statements depends on factors such as the timing of the repetition and the types of repeated questions (Poole & Lamb, 1998). If repeated interviews are conducted, then interviewers must be particularly careful to avoid leading questions.

Ceci and colleagues (Ceci & Bruck, 1995; Ceci et al., 1994) found that preschool children are especially prone to agree with repeated leading questions. In their study, preschoolers selected cards with statements such as "Got finger caught in mousetrap and had to go to the hospital." The cards were read to children who were then asked if the event ever occurred. Initially, most children disagreed with the statements. However, after 12 weeks of being interviewed once a week, more than half of the children gave false narratives of at least one event, with 25% giving false narratives to a majority of the nonexperienced events. Children's reports tended to be rich in detail. Furthermore, following debriefing, 27% of children refused to believe that the suggested event did not actually occur.

On the other hand, repeated interviews may sometimes help children provide new details of a past event (Howe, Kelland, Bryant-Brown, & Clark, 1992). Multiple interviews may help a confused but cooperative witness by helping him or her learn to talk about the event. Bradley and Wood (1996) examined 234 cases of corroborated CSA and found that 6% originally denied abuse. Thus, repeated interviews may sometimes be necessary for children to disclose abuse information.

However, investigators must use caution during repeated interviews. If asked repeated specific questions, children may change their responses, thinking the adult is repeating the question because the child provided the

wrong answer. For instance, Cassel and Bjorklund (1995) found that 42% of children questioned about a bicycle theft changed their responses with repeated interviews. Investigators should avoid repeating yes-no questions, as children may assume the question is being asked again because they gave the wrong answer (Poole & White, 1991). Children may simply change a "no" response to a "yes" response.

In the actual legal setting, children are interviewed an average of 11 times before reaching court (McGough, 1994). Police administrators may help lessen the number of times children are interviewed by coordinating with other agencies (e.g., protective services) involved. By coordinating in advance with other social service agencies, interviews could be conducted by a team of professionals.

If children are repeatedly interviewed by different professionals (e.g., a social worker and then a police officer), the interviewers should be careful to explain that they are not aware of the information that the children have already told others and would like to learn about it. Children are less likely to be misled if they are told in advance that the interviewer has no prior knowledge of the events in question (Toglia, Ross, Ceci, & Hembrooke, 1992).

LANGUAGE DEVELOPMENT

False allegations of abuse may also arise from linguistic confusion. Research suggests that it is necessary for investigative interviewers to have a rather sophisticated understanding of language development. Adults, including interviewers, often ask questions that are confusing to children (Brennan & Brennan, 1988; Warren et al., 1996). To complicate matters further, children who have experienced abuse may display delayed language development (Beeghly & Cicchetti, 1994).

Typical conversations with adults and children are quite different from proper interview conversations. Adults typically converse with children in a highly structured manner. Gleason (1977) suggests that adults are directive during their conversations with children to promote language development. Adults often make leading and reinforcing statements during normal conversations.

Understanding children's language development is a complex task for interviewers. Interviewers must learn and practice a proactive linguistic style with young children. There is little evidence to suggest that interviewers automatically conduct interviews with these linguistic principles in

mind. Rather, investigative interviews with children appear to be conducted in a linguistic manner similar to typical adult-child conversations. Hence, police administrators should encourage specialized training in interviewing child witnesses.

Subtle variations in interviewers' talk with children can have a tremendous impact on their reports. Both children and interviewers may be confused at the other's communicative intent. Research indicates that children often misunderstand seemingly simple words and concepts. For instance, children are often confused by words related to "touch" (Warren, 1992). Children may state that "He put his fingers inside me," but say no to the question "Did he touch you?" A.G. Walker (1994) notes that children may have a different understanding of commonly used words than adults. For instance, children may think that to remember something, it must first be forgotten. Thus, if asked whether they remember a particular event, children may say no simply because they have remembered it all along.

Investigators should also avoid questions about emotional concepts (e.g., "How did that make you feel?") Aldridge and Wood (1997) found that until around age 8, children easily become confused by words such as fear, anxiety, and anger. Even until age 14, children's understanding of the concept of emotion may differ from that of adults (Aldridge & Wood, 1997).

Children may also not fully understand or be able to report concepts of time (Friedman, 1991). Instead of trying to get a specific date and time of an alleged abusive event, investigators should ask more general questions. For instance, investigators could inquire as to whether the alleged victim was on break from school, whether the abuse allegation occurred following a school day, and so forth. Asking children about specific times and dates may only serve to discredit the child in the courtroom.

Investigators must also pay attention to syntactical development. Research suggests that investigators should avoid using passive tenses during questioning. Passive tense questions have been shown to confuse children until around ages 10 to 13 (A.G. Walker, 1994). Furthermore, investigators should avoid multiple and negatively phrased questions, as these may also confuse children (A.G. Walker, 1994).

Children may also display confusion toward adult language pragmatics. For instance, children sometimes fail to realize or indicate topic transitions (Fivush & Shukat, 1995; Poole & Lindsay, 1995). Poole and Lindsay (1995) found that when children were asked final open-ended questions about the "Mr. Science" project, the requests often led to off-topic responses. They found that even 8- to 10-year-olds would stray from the relevant topic when

asked such questions. If children make frequent topic shifts, then interviewers must be sure to clarify the information.

In sum, it is important for interviewers to work toward minimizing and recognizing linguistic confusion. Children may not tell adults that they are confused but rather attempt to answer the questions. Hughes and Grieve (1980) found that 5- to 7-year-olds often gave answers of yes or no to bizarre questions such as "Is milk bigger than water?" Warren and McCloskey (1997) found that when children were confused about a topic, they often either agreed with or paraphrased interviewers' prior statements. Such statements could lead investigators to superfluous conclusions.

The main implication for investigative interviews based on the child witness-language literature is that investigators must have a general understanding of language development. Investigators should be sensitive to the children's developmental level, allowing them to set the language level of the interview (Poole & Lamb, 1998). Awareness and sensitivity to language development can minimize interviewer-child miscommunication.

SUMMARY

The research reviewed above outlines several techniques that interviewers should avoid (i.e., leading questions, repeated interviews, and linguistically confusing questions) to minimize distortion in children's reports. Research has primarily focused on what not to do in investigative interviews. In the section below, general recommendations based on psychological research that interviewers should follow when interviewing child witnesses are outlined.

INTERVIEWING THE CHILD WITNESS: GENERAL RECOMMENDATIONS

There is no single structured interview that can be used to question all children. Interviewers must remain flexible to accommodate the varying characteristics of criminal cases. The interviewer should "consider life circumstances of individual children and adapt their methods accordingly" (Poole & Lamb, 1998, p. 8). The general interview techniques recommended below are flexible in that they focus on how to gather information rather than on what specific information to gather.

PREINTERVIEW PREPARATION

Research is lacking to address whether the quality of the interview is affected according to the amount of information collected prior to the interview. Prominent child investigation researchers Poole and Lamb (1998) suggest gathering some information about the allegations and learning some personal information about children to use in rapport building. Having some prior knowledge regarding the allegations or the children's family may help interviewers clarify details of the children's report. For instance, knowing whether children recently took sex education or whether the family is undergoing a divorce may be useful in considering alternative hypotheses to the abuse allegations.

RAPPORT BUILDING

First, interviewers should introduce themselves to children. They should allow the children to become familiar with the interview environment and ask any questions. Interviewers should begin building rapport with children by asking open-ended questions about non-abuse-related topics such as school. Research suggests that building rapport may increase the accuracy of the children's statements. For instance, Saywitz, Geiselman, and Bornstein (1992) had detectives from a sheriff's department interview third and sixth graders about staged events. They found that children who participated in interviews that began with open-ended rapport building made the fewest mistakes in their accounts. Furthermore, Sternberg et al. (1997) found that interviews that began with open-ended rapport building produced twice as many details and words than did brief rapport building with closed questions. See Sternberg et al. (1997) for an example of an open-ended rapport-building protocol.

Interviewers should explain to children the goals and the general rules of the interview, including that they have the right to say, "no," "I don't remember," and "I don't understand" (Poole & Lamb, 1998). Children often think that they must answer every question adults ask, regardless of whether they know the answer (Moston, 1990). Interviewers should explain to children that they have the right to express confusion and to correct any false interpretations. In Warren, Hulse-Trotter, and Tubbs (1991), the researchers warned 7-year-olds, 12-year-olds, and adults that they may be asked some tricky, confusing questions during an interview. They found that all age groups were more resistant to suggestion when given such a warning.

Rapport building also allows children practice in being informative (Sternberg et al., 1997). Not only does this allow children to become relaxed and familiar with the interviewers, but it also establishes the tone of the interviews. Interviewers should be encouraging and supportive to children (Goodman et al., 1990). However, interviewers should avoid comments such as "good boy" to specific disclosure responses, as such encouragement could be leading. Children should be encouraged to be active participants in the interviews (Goodman et al., 1991; Poole & Lamb, 1998). As children begin to communicate, interviewers can partially assess the children's language abilities.

To foster rapport, it is best for one person to interview the child (Poole & Lamb, 1998). Although a team approach of police–social worker interviews is highly recommended (Poole & Lamb, 1998), a single person should do the interviews. One-way mirrors and microphones ideally would be available to allow others to add questions to the interview. If this is not feasible, then a second investigator can sit in the room and take notes. Additional questions could be written and passed to the primary interviewer.

INTERVIEW ENVIRONMENT

Interviews should take place in environments that contain minimal distractions to children. Investigators should avoid wearing a police uniform or a gun, inasmuch as this likely will be distracting (Poole & Lamb, 1998). To maximize children's concentration, the room should be simple, cheerful, uncluttered, and nonthreatening (Poole & Lamb, 1998).

The investigative environment should allow audio and video recordings of children's statements. Recorded interviews seem useful for several reasons. First, recordings allow investigators to counter claims of poor investigation techniques. In turn, recordings may also encourage proper interview techniques. Second, videotapes allow investigators to look back through children's accounts to review and clarify their communicative intent. Third, videotaped testimony may reduce the number of times that children are interviewed.

On the other hand, investigators must be prepared to have their interview methods challenged by the defense. Furthermore, inconsistencies between the videotaped interviews and the children's courtroom testimony may cast doubt on their reliability. Regardless, a general consensus appears to be emerging among researchers that the potential advantages of recording the interview outweigh the potential disadvantages. Interviews should be audio-

taped and videotaped (e.g., Ceci & Bruck, 1995; Lamb, 1994; McGough, 1994, 1995; Poole & Lamb, 1998; Raskin & Yuille, 1989; Walker-Perry & Wrightsman, 1991).

TRUTH VERSUS LIE CEREMONY

Investigators should avoid asking children to provide a narrative description of "truth versus lie." Such a question is abstract and confusing even to school-aged children (Pipe & Wilson, 1994; A.G. Walker, 1994). Furthermore, researchers have found that children's ability to explain "truth versus lie" does not predict the accuracy of their statements (Goodman et al., 1987; Pipe & Wilson, 1994). Researchers have only recently begun to examine the efficacy of different types of truth-lie discussions in increasing the veracity of children's reports (e.g., Huffman, Warren, & Larson, 1999; London & Nunez, 2001). Currently, there is inadequate evidence to direct the practice of truth-lie discussions with children. However, if a truth-lie ceremony is conducted, then interviewers should use concrete questions (Poole & Lamb, 1998).

OPEN-ENDED QUESTIONS

Open-ended questions should be used as much as possible during investigative interviews. Open-ended questions allow children to respond to questions in a variety of ways. Children tend to be more accurate on their free recall than in response to forced-choice questions. Poole and Lamb (1998) emphatically state, "*Regardless of the experimental procedures, the ages studied, the cognitive capacity of the subject, or the length of the delay between events and the interview, open-ended questions are more likely to elicit accurate accounts*" (p. 53, emphasis in original).

Although open-ended questions produce more accurate recall, children tend not to report events in great detail during narrative reports (Poole & Lamb, 1998). For instance, in a study in which children were told secrets and later asked about the secrets from a second interviewer, children were much more likely to reveal their secrets when directly asked (Wilson & Pipe, 1995). Open-ended questions generally did not lead to commensurate disclosure.

Although specific questions may be necessary to gather more information, such questions increase the risk of inaccuracy (Poole & Lamb, 1998). Dent and Stephenson (1979) found that 19% of children's reports were

inaccurate when asked specific questions compared with 9% when asked open-ended questions.

Children may give inaccurate responses to forced-choice questions because they may try to answer impossible questions. As previously noted, young children may feel that they need to answer adults' questions (Ceci et al., 1987). If children do not know the answer to a forced-choice question, then they may simply choose one. Poole and Lindsay (1995) found that children acquiesced to 62% of questions about events that did not take place during the "Mr. Science" demonstration. N.E. Walker, Lunning, and Eilts (1996) asked kindergarten, second graders, and fifth graders forced-choice questions about a video they had recently watched. They found that, when given confusing questions, children often chose the second answer choice with which they were provided.

In sum, specific questions may be necessary to allow interviewers to gather more information and to clarify the information that children have already reported. Hence, interviewers should begin the interview with open-ended questions to be followed by a series of specific questions. When specific questions are used, care should be taken to phrase questions differently to explore whether children are simply agreeing to all questions. Yes-no questions should be avoided whenever possible. When using specific questions, children should be allowed to further describe their account.

INTERVIEW AIDS

Anatomically detailed or anatomically correct dolls (AD dolls) became widely popular in the 1980s, despite the lack of standardized procedures or empirical support (Poole & Lamb, 1998). Even in the early 1990s, Conte, Sorenson, Fogarty, and Rosa (1991) found in a U.S. survey of more than 200 professionals that 92% reported using AD dolls in child abuse investigations. Kendall-Tackett and Watson (1992) found in a Boston survey that 62% of police officers and 80% of mental health workers reported using AD dolls.

AD dolls were assumed to help children describe abuse for a variety of reasons. Interview aids such as dolls were speculated to act as memory aids and to lessen children's embarrassment caused by verbally describing sexually explicit information. Dolls were thought to especially help younger children overcome language deficits. Some investigators even tried to infer abuse based on children's play with AD dolls (assuming abused children would display more sexual play than nonabused children).

The efficacy of interview aids such as AD dolls was based solely on intuition. Empirical studies now cast serious doubt on the utility of AD dolls. First, abuse cannot be reliably inferred based on children's play because nonabused children may also display sexual play (Realmuto, Jensen, & Wescoe, 1990). Second, studies show that the use of AD dolls does not lead children to recall more information than interviews with no aids (Bruck, Ceci, & Francoeur, 2000; DeLoache & Marzolf, 1995). Third, the dolls likely do not help younger children overcome language deficits because younger children probably do not understand the purpose of the dolls. That is, younger children have difficulties understanding the symbol-referent nature of AD dolls (DeLoache, 1995). Finally, if dolls are used to encourage children to first disclose abuse, then the dolls can be leading (Bruck & Ceci, 1996).

In general, police administrators should discourage the use of investigation aids such as AD dolls and drawings for interviewing children (Yuille et al., 1993). Dolls should not be used as a diagnostic tool (Everson & Boat, 1990). If dolls or drawings are used, then it should only be in helping children clarify information that they have already disclosed (e.g., names of body parts).

CLOSING THE INTERVIEW

Investigators should close the interview by asking children if they have anything further they would like to add about the events that were discussed. Children should be allowed to ask any final questions. Children or their parents should be given contact information in case they want to further discuss something (Poole & Lamb, 1998).

EFFICACY OF PSYCHOLOGICALLY BASED INTERVIEW PRINCIPLES

The interview principles reviewed above are common themes that run through each of numerous training manuals that are now available to guide child witness interviews. Such manuals, based on psychological research, have been published in the United States (e.g., the Cognitive Interview and the National Institute of Child Health and Human Development Protocol), England (e.g., the Memorandum of Good Practice), and Canada (e.g., the Step-Wise Interview). Although the procedures differ in some details, each

of these interview protocols is based on the psychological research reviewed above.

Research is only beginning to accumulate to suggest that the psychologically based interview techniques are superior to standard police interviews. For instance, the Cognitive Interview (CI), originally devised by psychologists for cooperative adult witnesses, has been modified for child witnesses. Fisher and McCauley (1995) reported that as of 1995, across 25 studies in the United States, Germany, and England, the CI overall elicited 35% more correct information from mock eyewitnesses than the standard police interview (SI). Saywitz et al. (1992) found that the CI elicited between 18% and 26% more information from 7- to 12-year-old participants than the SI. Geiselman and Padilla (1988) found a 21% improvement in the CI over the SI in 7- to 12-year-old participants. Although increasing the amount of correct information, the amount of incorrect information elicited during the CI was not different from the SI.

Research on the efficacy of the other psychologically based interview protocols has also found the techniques superior to the SI. In testing the Step-Wise Interview, only 5% of information from children was considered deficient, whereas 30% of information attained during the SI was considered deficient (Yuille et al., 1993). Sternberg et al. (1997) found that the National Institute of Child Health and Human Development Protocol produced 6 times as much information that the SI. In sum, when compared with the SI, children questioned with the empirically based interview methods generally report much more accurate information without an increase in inaccuracy rates.

THE NECESSITY OF TRAINING INVESTIGATING OFFICERS IN INTERVIEWING CHILD WITNESSES

It is difficult to assess whether and to what extent psychologically based interview techniques are applied in actual interviews. Ethical considerations in police interviews often prevent controlled police studies. Police interviews can obviously have serious consequences, so experimental studies with actual victims of crime may not be conducted. Furthermore, resource limitations (e.g., time and money) may prevent well-intentioned police departments from utilizing new investigative procedures. Thus, for police departments, economy and efficiency are also practical concerns regarding investigative procedures.

Police have traditionally seen their role as one of simply gathering the facts from cooperative witnesses (Ainsworth, 1995). That is, traditionally, police officers have lists of the information that they should gather but are left untrained regarding how to gather it. Fisher, Geiselman, Raymond, Jurkevich, and Warhaftig (1987, p. 178) cited one police officer as stating, "Basically, you just ask them who, what, when, where, why, and how."

Even with proper training and policies, officers may not apply proper interview techniques (Geiselman et al., 1987). Questioning children is very complex; it may be difficult for officers to change their communication styles. Aldridge and Cameron (1999) administered a one-week intensive training course to police and social workers on interviewing children. An examination of subsequent videotaped interviews revealed that there were no differences in performance between trained and untrained interviewers. Role-playing and feedback may be important for officers first learning the psychologically based interview methods (Geiselman et al., 1987). New recruits should be trained in the methods before they learn maladaptive interview habits.

It is imperative that police officers receive updated in-service training on interviewing children. Information about child interviews is changing quite rapidly; investigators trained in the 1980s would not be aware of the many new techniques. Even relatively recent training bulletins (e.g., Hertica, 1987) may suggest techniques that are discrepant with current research findings. For instance, in an FBI Law Enforcement Bulletin from 1987 (Hertica, 1987), detectives were advised to be supportive while children are disclosing the "facts." In light of the psychological methods discussed above, the previous statement is problematic in two regards. First, interviewers should not consider children's statements to be facts but rather keep the hypothesis-testing approach. Second, although a supportive interview style is recommended, this supportive atmosphere should be maintained throughout, not simply during disclosing statements. The 1987 FBI training manual does, however, offer many techniques that are still advocated by research (e.g., rapport building, sensitivity to language development, and avoidance of questions about specific dates). The FBI Law Enforcement Bulletin illustrates well the necessity that police receive updated training. Only trained officers (rather than street officers untrained in interviewing children) should take reports from children.

CONCLUSION

The role of police officers traditionally has been to serve and protect the community. This role is inherently ambiguous, as officers encounter a variety of tasks on a daily basis. Police are expected to be experts in a wide variety of domains, including interrogating suspects, interviewing victims and witnesses, gathering physical evidence, and operating equipment such as police vehicles and firearms. Considering the tremendous range of duties for which the police officers are responsible, it seems questionable to expect them to also gain the expertise necessary to interview child witnesses. A better alternative may be to train selected officers who will be responsible for taking the initial reports and subsequently investigating the case.

Interviewing children is a complicated endeavor. Recent psychological research has found that the quality of children's reports is dependent on the quality of the investigative interview. This article reviewed some of the steps that investigating officers can take to increase the reliability of children's reports. In addition, police administrators can help investigators reach this goal by endorsing specialized training and by ensuring that the appropriate interview environment is provided.

The nature of investigative interviews does not allow for a simple recipe that can be applied when questioning all children. Interviewers need special skills and training. A variety of interview protocols that maximize children's accuracy and minimize distortion are now available. However, research is unclear as to whether or to what extent these interview protocols are being applied in actual forensic settings. Future research should work toward further improving investigative techniques. Researchers also must consider the feasibility of law enforcement officers or child welfare workers applying these techniques.

REFERENCES

Ainsworth, P. B. (1995). *Psychology and policing in a changing world.* New York: John Wiley.

Aldridge, J., & Cameron, S. (1999). Interviewing child witnesses: Questioning techniques and the role of training. *Applied Developmental Science, 3*, 136-147.

Aldridge, M., & Wood, J. (1997). Talking about feelings: Young children's ability to express emotions. *Child Abuse & Neglect, 21*, 1221-1233.

Beeghly, M., & Cicchetti, D. (1994). Child maltreatment, attachment and the self-system: Emergence of an internal state lexicon in toddlers at high social risk. *Development and Psychopathology, 6*, 5-30.

Bradley, A. R., & Wood, J. M. (1996). How do children tell? The disclosure process in child sexual abuse. *Child Abuse & Neglect, 9*, 881-891.

Brennan, M., & Brennan, R. E. (1988). *Strange language: Child victims under cross examination* (3rd ed.). Wagga Wagga, New South Wales, Australia: Riverina Literacy Centre.

Bruck, M., & Ceci, S. J. (1996). Issues in the scientific validation of interviews with young children. Comment on "Interviewing young children about body touch and handling." *Monograph of the Society for Research in Child Development, 61* (4-5, Serial No. 248).

Bruck, M., & Ceci, S. J. (1999). The suggestibility of children's memory. *Annual Review of Psychology, 50*, 419-439.

Bruck, M., Ceci, S. J., & Francoeur, E. (2000). Children's use of anatomically detailed dolls to report genital touching in a medical examination: Developmental and gender comparisons. *Journal of Experimental Psychology–Applied, 6*, 74-83.

Bruck, M., Hembrooke, H., & Ceci, S. J. (1997). Children's reports of pleasant and unpleasant events. In J. D. Read & D. S. Lindsay (Eds.), *Recollections of trauma: Scientific evidence and clinical practice* (pp. 199-213). New York: Plenum.

Bruck, M., Melnyk, L., & Ceci, S.J. (2000). Draw it again Sam: The effect of drawing on children's suggestibility and source monitoring ability. *Journal of Experimental Psychology, 77*, 169-196.

Buros, O. K. (1989). *The tenth mental measurements yearbook.* Lincoln: University of Nebraska Press.

Cassel, W.S., & Bjorklund, D.F. (1995). Developmental patterns of eyewitness memory and suggestibility: An ecologically based short-term longitudinal study. *Law and Human Behavior, 19*, 507-532.

Ceci, S. J., & Bruck, M. (1993). Suggestibility of the child witness: A historical review and synthesis. *Psychological Bulletin, 113*, 403-439.

Ceci, S. J., & Bruck, M. (1995). *Jeopardy in the courtroom: A scientific analysis of children's testimony.* Washington, DC: American Psychological Association.

Ceci, S. J., Bruck, M., & Battin, D. B. (2000). The suggestibility of children's testimony. In D. F. Bjorkland (Ed.), *False-memory creation in children and adults: Theory, research, and implications* (pp. 169-201). Mahwah, NJ: Lawrence Erlbaum.

Ceci, S. J., Huffman, M.L.C., Smith, E., & Loftus, E. F. (1994). Repeatedly thinking about a nonevent: Source misattributions among preschoolers. *Consciousness and Cognition, 3*, 388-407.

Ceci, S. J., Ross, D. F., & Toglia, M. P. (1987). Suggestibility of children's memory: Psycholegal implications. *Journal of Experimental Psychology, 116*, 38-49.

Chess, S., & Hassibi, M. (1986). *Principles and practice of child psychiatry* (2nd ed.). New York: Plenum.

Cohen, R. L., & Harnick, M. A. (1980). The susceptibility of child witnesses to suggestion. *Law and Human Behavior, 4*, 571-577.

Conte, J. R., Sorenson, E., Fogarty, L., & Rosa, J. D. (1991). Evaluating children's reports of sexual abuse: Results from a survey of professionals. *American Journal of Orthopsychiatry, 61*, 428-437.

Davis, G. M., Tarrant, A., & Flin, R. (1989). Close encounters of a witness kind: Children's memory for a simulated health inspection. *British Journal of Psychology, 80*, 415-429.

DeLoache, J. S. (1995). Early understanding and use of symbols: The model model. *Current Directions in Psychological Science, 4*, 109-113.

DeLoache, J. S., & Marzolf, D. P. (1995). The use of dolls to interview young children: Issues of symbolic representation. *Journal of Experimental Child Psychology, 60,* 155-173.

Dent, H.R., & Stephenson, G.M. (1979). An experimental study of the effectiveness of different techniques of questioning child witnesses. *British Journal of Social and Clinical Psychology, 18,* 41-51.

Everson, M., & Boat, B. (1990). Sexualize doll play among young children: Implications for the use of anatomical dolls in sexual abuse evaluations. *Journal of the American Academy of Child and Adolescent Psychiatry, 29,* 736-742.

Finkelhor, D. (1984). *Child sexual abuse: New theory and research.* New York: Free Press.

Fisher, R. P., Geiselman, R. E., Raymond, D. S., Jurkevich, L. M., & Warhaftig, M. L. (1987). Enhancing enhanced eyewitness memory: Refining the Cognitive Interview. *Journal of Police Science and Administration, 15,* 291-297.

Fisher, R. P., & McCauley, M. R. (1995). Information retrieval: Interviewing witnesses. In N. Brewer & C. Wilson (Eds.), *Psychology and policing* (pp. 81-99). Hillsdale, NJ: Lawrence Erlbaum.

Fivush, R., & Shukat, J. (1995). What young children recall: Issues of content, consistency and coherence of early autobiographical recall. In M. S. Zaragoza, J. R. Graham, G.C.N. Hall, R. Hirschman, & Y. S. Ben-Porath (Eds.), *Memory and testimony in the child witness* (pp. 5-23). Thousand Oaks, CA: Sage.

Friedman, W. J. (1991). The development of children's memory for the time of past events. *Child Development, 62,* 139-155.

Geiselman, R. E., & Padilla, J. (1988). Cognitive interviewing with child witnesses. *Journal of Police Science and Administration, 16,* 236-242.

Gleason, J. B. (1977). Code switching in children's language. In E. M. Hetherington & R. D. Parke (Eds.), *Contemporary readings in child psychology* (pp. 138-143). New York: McGraw-Hill.

Goodman, G. S., Aman, C., & Hirschman, J. (1987). Child sexual and physical abuse: Children's testimony. In S. J. Ceci, M. P. Toglia, & D. F. Ross (Eds.), *Children eyewitness memory* (pp. 1-23). New York: Springer-Verlag.

Goodman, G. S., Hirschman, J. E., Hepps, D., & Rudy, L. (1991). Children's memory for stressful events. *Merrill-Palmer Quarterly, 37,* 109-158.

Goodman, G.S., & Reed, R.S. (1986). Age differences in eyewitness testimony. *Law and Human Behavior, 10,* 317-332.

Goodman, G. S., Rudy, L., Bottoms, B. L., & Aman, C. (1990). Children's memory and children's concerns: Issues of ecological validity in the study of children's eyewitness testimony. In R. Fivush & J. Hudson (Eds.), *What young children remember and know* (pp. 249-284). New York: Cambridge University Press.

Hertica, M. A. (1987). Police officer interviews of sexually abused children. *FBI Law Enforcement Bulletin, 56,* 12-16.

Howe, M. L., Kelland, A., Bryant-Brown, L., & Clark, S. L. (1992). Measuring the development of children's amnesia and hyperamnesia. In M. L. Howe, C. J. Brainard, & V. F. Reyna (Eds.), *Development of long-term retention* (pp. 56-102). New York: Springer-Verlag.

Huffman, M. L., Warren, A. R., & Larson, S. M. (1999). Discussing truth and lies in interviews with children: Whether, when, and how? *Applied Developmental Science, 3,* 6-15.

Hughes, M., & Grieve, R. (1980). On asking children bizarre questions. *First Language, 1*, 149-160.

Kendall-Tackett, K. A., & Watson, M. W. (1992). Use of anatomical dolls by Boston-area professionals. *Child Abuse and Neglect, 16*, 423-428.

Koocher, G. P., Goodman, G. S., White, C. S., Friedrich, W. N., Sivan, A. B., & Reynolds, C. R. (1995). Psychological science and the use of anatomically detailed dolls in child sexual abuse assessments. *Psychological Bulletin, 118*, 199-222.

Lamb, M.E. (1994). The investigation of child sexual abuse: An interdisciplinary consensus statement. *Child Abuse & Neglect, 18*, 1021-1028.

London, K., & Nunez, N. (2001). *Examining the efficacy of various truth/lie discussions in increasing the veracity of children's reports*. Manuscript in preparation.

McGough, L. S. (1994). *Child witnesses: Fragile voices in the American legal system*. New Haven, CT: Yale University Press.

McGough, L. S. (1995). For the record: Videotaping investigative interviews. *Psychology, Public Policy, and Law, 1*, 370-386.

Moston, S. (1990). How children interpret and respond to questions: Situational sources of suggestibility in eyewitness interviews. *Social Behaviour, 5*, 155-167.

Ornstein, P. A., Gordon, B. N., & Larus, D. M. (1992). Children's memory for a personally experienced event: Implications for testimony. *Applied Cognitive Psychology, 6*, 49-60.

Pipe, M. E., & Wilson, J. C. (1994). Cues and secrets: Influences on children's event reports. *Developmental Psychology, 30*, 515-525.

Poole, D. A., & Lamb, M. E. (1998). *Investigative interviews of children: A guide for helping professionals*. Washington, DC: American Psychological Association.

Poole, D. A., & Lindsay, D. S. (1995). Interviewing preschoolers: Effects of nonsuggestive techniques, parental coaching, and leading questions on reports of nonexperienced events. *Journal of Experimental Child Psychology, 60*, 129-154.

Poole, D. A., & White, L. T. (1991). Effects of question repetition on the eyewitness testimony of children and adults. *Developmental Psychology, 27*, 975-986.

Raskin, D. C., & Yuille, J. C. (1989). Problems in evaluating interviews of children in sexual abuse cases. In S. J. Ceci, D. F. Ross, & M. P. Toglia (Eds.), *Perspectives on children's testimony* (pp. 184-207). New York: Springer-Verlag.

Realmuto, G., Jensen, J., & Wescoe, S. (1990). Specificity and sensitivity of sexually anatomically correct dolls in substantiating abuse: A pilot study. *Journal of the Academy of Child and Adolescent Psychiatry, 29*, 743-746.

Saywitz, K. J., Geiselman, R. E., & Bornstein, G. K. (1992). Effects of cognitive interviewing and practice on children's recall performance. *Journal of Applied Psychology, 77*, 744-756.

State v. Michaels, 625 A2d 489 (N.J. App. 1993), *aff'd*, 1994 WL 278424 (N.J. Spu. 1994).

Sternberg, K. J., Lamb, M. E., Hershkowitz, I., Yudilevitch, L., Orbach, Y., Esplin, P. W., & Hovav, M. (1997). Effects of introductory style on children's abilities to describe experiences of sexual abuse. *Child Abuse and Neglect, 21*, 1133-1146.

Taylor, M., Esbensen, B. M., & Bennett, R. T. (1994). Children's understanding of knowledge acquisition: The tendency for children to report they have always known what they have just learned. *Child Development, 65*, 1581-1604.

Toglia, M. P., Ross, D. F., Ceci, S. J., & Hembrooke, H. (1992). The suggestibility of children's memory: A social-psychological and cognitive interpretation. In M. L. Howe, C. J.

Brainard, & V. F. Reyna (Eds.), *Development of long-term memory* (pp. 217-241). New York: Springer-Verlag.

U.S. Department of Health and Human Services, National Center on Child Abuse and Neglect. (1995). *Child Maltreatment 1993: Reports from the states to the National Center on Child Abuse and Neglect*. Washington, DC: Government Printing Office.

Walker, A. G. (1994). *Handbook on questioning children: A linguistic perspective*. Washington, DC: American Bar Association Center on Children and the Law.

Walker, N. E., Lunning, S. M., & Eilts, J. L. (1996, June). *Do children respond accurately to forced choice questions? Yes or no*. Paper presented at Recollections of Trauma: Scientific Research and Clinical Practice, NATO Advanced Study Institute, Port de Bourgenay, France.

Walker-Perry, N., & Wrightsman, L. S. (1991). *The child witness: Legal issues and dilemmas*. Newbury Park, CA: Sage.

Warren, A., Hulse-Trotter, K., & Tubbs, E. C. (1991). Inducing resistance to suggestibility in children. *Law and Human Behavior, 15*, 273-285.

Warren, A. R. (1992, May). *Interviewing child witnesses: Some linguistic considerations*. Paper presented at The Child Witness in Context, North Atlantic Treaty Organization Advanced Study Institute, Lucca, Italy.

Warren, A. R., & McCloskey, L. A. (1997). Language in social contexts. In J. B. Gleason (Ed.), *The development of language* (4th ed., pp. 210-258). New York: Allyn & Bacon.

Warren, A. R., Woodall, C. E., Hunt, J. S., & Perry, N. W. (1996). "It sounds good in theory, but . . ." Do investigative interviewers follow guidelines based on memory research? *Child Maltreatment, 1*, 231-245.

Wilson, J. C., & Pipe, M. E. (1995). Children's disclosure of secrets: Implications for interviewing. In G. Davis, S. Lloyd-Bostock, M. McMurran, & C. Wilson (Eds.), *Psychology, law, and criminal justice: International developments in research and practice* (pp. 170-180). Berlin, Germany: Walter DeGruyter.

Yuille, J. C., Hunter, R., Jeffe, R., & Zaparniuk, J. (1993). Interviewing children in sexual abuse cases. In G. S. Goodman & B. L. Bottoms (Eds.), *Child victims, child witnesses: Understanding and improving testimony* (pp. 95-115). New York: Guildford.

Kamala London is currently finishing her Ph.D. in developmental psychology at the University of Wyoming. She has received awards from the American Psychology and Law Society and from the American Psychological Association. Her research focus is on children's social cognitive development and on the applications of this information to the treatment of children in the legal system. Beginning in fall 2001, London will begin a 2-year National Institute of Mental Health (NIMH) fellowship at Johns Hopkins Medical Institution's Division of Child and Adolescent Psychiatry.