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"In this case," Kurzman said, "the jury has heard testimony from two children who are presently about six years old and who at the time the events occurred were five years old.

"Can you tell the jury generally about the malleability or suggestibility of the memory implantation process as it occurs with five- and six-year-old children," Kurzman asked.

"We have found that it is very easy to suggest information to people, and, under certain conditions,

Even if children's memories were comparable to adults' on every level, children would still have memory problems. . . . We are all, adults and children alike, suggestible beings.

they will succumb to these suggestions and come to believe that they actually witnessed these details. We have gotten people to tell us that they saw broken glass, if we ask a question about cars smashing into each other. We've gotten people to tell us red lights were green lights, if we ask a leading question that suggested that the light was green. We've gotten people to

tell us that an individual has curly hair when in fact he had straight hair."

"It's now been demonstrated that under certain conditions children can be even more suggestible than adults. I'm referring now to children three, four, and five years old. When you ask leading questions that suggest what the answer is to be, children will pick up that information and incorporate it into their memories, and they will then come to believe that they have actually experienced these details when, in fact, they've only been suggested to them."

Kurzman abruptly switched the subject. "As part of your teaching experience, have you taught people the proper ways to question someone in order to determine the reality of their experience and to avoid implanting ideas in their minds as you question

them?"

"Yes, I've lectured to police, state patrol, and other groups of law enforcement officers on the proper ways to question people to get the most accurate and complete answers."

"Do you have an opinion about whether a properly trained person in interviewing techniques, someone who interviewed a five-year-old child who had already been questioned for two months, would be able to determine whether the information received by the proper investigation was an accurate reflection of reality or a mix of fact and fantasy?"

"I do have an opinion." This, of course, was a crucial part of my testimony as an expert witness on memory. "Once someone's memory has been contaminated, distorted, or transformed by the processes I've been talking about, by suggestive questioning or by other kinds of postevent suggestions, it's virtually impossible to distinguish fact from fantasy because the individual witness now believes in what he or she is saying."

"And therefore," Kurzman said, "if a five- or six-year-old child was relating a story that contained contamination, fantasy, implantation, would this child be making a false accusation as the child understood it?"

"The child would not be making a false accusation," I said. "It's certainly possible that children can lie, and do lie, but we're talking here about children who honestly believe what they are saying, but they are saying it because of the suggestive influences that have been exerted either advertently or inadvertently upon them."

"Thank you," Kurzman said. "I have no further questions."

The jury found Tony not guilty.

Reference

Loftus, E. & Ketcham, K. (1991). *Witness for the Defense*. New York: St. Martin's Press.

Elizabeth Loftus, PhD, is Professor of Psychology at the University of Washington in Seattle.

before narrating the event;

2. Report everything, even partial information, regardless of perceived importance;
3. Recount the events in a variety of orders; and
4. Report the events from a variety of perspectives.

The cognitive interview has been evaluated positively in a series of studies with adult witnesses, and shown to elicit 35% to 58% more information than standard police interviews. The cognitive interview is now utilized by police officers throughout the country.

Because the cognitive interview is essentially a guided memory search, the technique uses the type of memory aids that are likely to benefit children's recall. Typically, the reports of young children are quite

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Enhancing Children's Memory with the Cognitive Interview

—by Karen J. Saywitz

The "cognitive interview" is a collection of memory enhancement techniques developed by R. Edward Geiselman to aid forensic questioning of adult crime victims. The cognitive interview technique is based on two principles of memory that are well documented in the scientific literature. First, a memory is composed of several features, and the effectiveness of a memory jogging technique is related to the extent of its feature overlap with the memory. Second, there may be several retrieval paths to a memory for an event, so that information not accessible with one memory jogging technique may be accessible with a different technique. Based on this framework, Geiselman developed four general retrieval aids:

1. Mentally reconstruct the environmental and personal context that existed at the time of the crime

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accurate, but also quite incomplete. Children do not necessarily remember less, but they appear to be less proficient at reporting all that they remember unless the interviewer asks follow-up questions which serve as memory cues. Unfortunately, follow-up questions may be misleading, and some young children may be less able than adults to resist suggestive questions by authority figures about peripheral details. Techniques that enhance the completeness of children's reports without generating inaccurate information would be extremely valuable.

Recently, the cognitive interview was modified for use with children. The first modification was to create a set of instructions to introduce children to the demands of the interview task and the interviewer's expectations. Children were told:

1. "There may be some questions that you do not know the answers to. That's okay. Nobody can remember everything. If you don't know the answer to a question, then tell me 'I don't know,' but do not guess or make anything up. It is very important to tell me only what you really remember. Only what really happened."
2. "If you do not want to answer some of the questions, you don't have to. Tell me 'I don't want to answer that question.'"
3. "If you don't know what something I ask you means, tell me 'I don't understand' or 'I don't know what you mean.' Tell me to say it in new words."
4. "I may ask you some questions more than one time. Sometimes I forget that I already asked you that question. You don't have to change your answer, just tell me what you remember the best you can."

The second modification of the cognitive interview involved the following revisions of the four general retrieval aids described earlier:

1. Children were asked to describe the environmental and personal context aloud. Before giving narrative accounts, children were asked to "Picture that time when . . . , as if you were there right now. Think about what it was like." Following this instruction, interviewers prompted children with questions like "What did the room look like? What things were in the room? Who was there? How were you feeling when you were in that room?" and so forth. Interviewers avoided words like "imagine" or "pretend."
2. Next, children were told, "Now I want you to start at the beginning and tell me what happened, from the beginning to the middle to the end. Tell me everything you remember, even the little parts that you don't think are very important. Tell me everything that happened."
3. After children finished their narrative report, in-

The cognitive interview improves the quantity of useful information gained from children 7 to 12 years of age without creating heightened inaccuracy.

terviewers asked any specific questions necessary to clarify what had been reported thus far. Children were then asked to recall the event in backward order, starting at the end, then the middle, then the beginning. To prevent the child from making grand leaps backward in time, the interviewers repeatedly prompted with, "Then tell me what happened right before that?"

4. When the children's memory appeared exhausted, interviewers asked them to "Put yourself in the body of . . . , and tell me what that person saw." From a developmental perspective, one would predict that this would be difficult for young children. Indeed, it was the most difficult task for the younger children in our studies. From a psychological perspective, one might be concerned about the appropriateness of asking children to retell the event from the viewpoint of someone who might have hurt them. Children could retell the event from the perspective of another witness or a stuffed animal.

With these modifications in place, the cognitive interview was evaluated in two studies in which off duty police officers interviewed children about events that occurred at school. Some of the children were interviewed with the modified cognitive interview. Other children received standard police interviews (Saywitz, Geiselman, & Bornstein, in press). The results indicate that the cognitive interview improves the quantity of useful information gained from children 7-to-12 years of age without creating heightened inaccuracy.

In the first experiment, the gains (though significant) were not as great as those seen with adults. Children exhibited approximately 26% improvement in recall of accurate information. In the second experiment, children practiced using the cognitive interview techniques, and were given explicit feedback before the interview. In the second study, children showed a 45% increase in accurate information over standard police interviews, again without increased inaccuracy.

The results of these studies, along with a description of the children's version of the cognitive interview will appear in an article by Saywitz, Geiselman, and Bornstein titled, "Effects of Cognitive Interviewing and Practice on Children's Recall Performance" in the *Journal of Applied Psychology*. Brevity precludes a detailed description of additional memory jogging techniques used, the format used for practicing the techniques with children, or additional guidelines given to interviewers. Before using the cognitive interview in actual cases, readers are encouraged to write to Dr. Saywitz for a preprint of the article (Department of Psychiatry, D-6, Harbor-UCLA Medical Center, 1000 West Carson Street, Torrance, CA 90509) or look for it in the *Journal of Applied Psychology* later this year.

Karen J. Saywitz, PhD, is Associate Professor in Child & Adolescent Psychiatry at Harbor-UCLA Medical Center in Torrance, CA.