



NTSB ACADEMY

Q & A with Ron Fisher, Ph.D. The Cognitive Interview

NTSB Academy
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You developed the cognitive interview back in the early 1980s. How did that come about?

The genesis of the cognitive interview was almost accidental. On several occasions, friends who had come to visit me at my apartment would misplace something. They would call me up later and ask me if it was in the apartment, and invariably, it was not. But through conversing with them and asking questions to help trigger their memories, they would then recall where they had misplaced the item.

I realized that through these casual conversations on the phone, I was using, although informally, the principles and theories that I was teaching in my memory course at the university. Not surprisingly, the techniques derived from these principles worked.

I then contacted a colleague, Ed Geiselman at U.C.L.A., and asked him who could use this skill of helping someone to remember details. His first response was police, since they spend much of their time solving crimes by getting witnesses to remember details about an incident or series of incidents.

Ed and I then went to the Los Angeles Police Department and spoke to people in their behavioral sciences division about the kind of training police get in interviewing cooperative witnesses. We were surprised to hear that they receive very little training in this area. They do get some formal training on interrogating suspects, but relatively little on interviewing cooperative witnesses.

Then we checked other police departments and found that they, too, received little training on interviewing cooperative witnesses. So we thought that this would be an interesting opportunity to apply memory theory to police interviews. And that's what we did.

We scoured through memory theory and also general cognitive psychology theory to see if any of those principles could be used to improve witness memory in an interactive interview. We found a number of applicable principles in these fields and used them to develop a precursor to what we now call the cognitive interview. This was tested in a variety of laboratory studies where experimental witness would get to see a simulated crime. After the simulation the witness was given either the traditional police interview or the cognitive interview. The witnesses who took part in the cognitive interviews consistently produced much more information than those who had been given the traditional police interviews.

So that's how it started. Over a period of years it evolved into what is now known as the cognitive interview.

So over time, it was put into a more formalized process?

Yes. Initially there were just four components to it, because those were the ones that immediately emerged from theories of cognition. But more research revealed that there were a variety of other cognitive psychology principles that could be adapted to a formal interview.

A key part of the research involved listening to tape recordings of police actually conducting real interviews; I listened to literally hundreds of them. What quickly became obvious was that there were clear differences between effective interviewers and ineffective interviewers, and each employed different strategies. So some of the components of the cognitive interview come from modeling the differences between good and poor police interviews.

We also looked at recommendations for interviewing in other domains. For example, journalists conduct interviews. There are books written by journalists on how to conduct journalistic interviews, and there are books by doctors and nurses on how to conduct medical interviews. I made it more of an eclectic project to see whether or not I could use any of the insights from those outside the field of psychology, to see what they had to say about conducting interviews. And indeed, there were some valid concepts that were incorporated into the cognitive interview.

We initially were working towards improving or facilitating the witness's memory, but later we realized it was not just a memory problem. There were also problems of social dynamics involved. So we started to look more at theories of social psychology and theories related to linguistics to see how we could use linguistics theory to help people more accurately describe objects or events.

And then there was the problem of the interviewer. The interviewer is also engaging his or her cognitive processes, asking questions, listening to the witness and taking notes, which can add up to a lot of distractions. So it's not only a matter of what the witness is

going through. There is also the issue of how to help the interviewer so the information the witness provides is not lost.

How would you describe the cognitive interview and how is it different from traditional interviewing techniques?

Traditional interviewers try to elicit information by asking many good questions; they target a question for each content area that they need to address. If they need to find out how tall the perpetrator was, then they ask the question, “How tall was the perpetrator?” And if they want to find out what was the angle of the plane that was approaching the airport, they would ask a direct question like, “What was the angle of the plane as it approached the airport?”

The traditional interviewer asks many questions, each of which elicits a very brief response. The cognitive interview, on the other hand, is in some ways a questionless interview. The goal is to ask as few questions as possible so that witnesses give you long narrative responses that each contains that much more information than a traditional interview. The objective is to try to elicit information, not extract information. The good interviewer tries create a social environment so the witness generates information without having to wait for questions to be asked.

So it’s less directive?

Yes, it’s less directive. We also do things that attempt to facilitate memory. In the traditional police interview, if the interviewer asks a question and the witness says he doesn’t remember, the interviewer usually just goes on to the next question. In the cognitive interview, however, we try to incorporate principles of memory to assist the witness to remember more details. It would be comparable to the navigator in a plane guiding the pilot to the destination by indicating the appropriate routing. If you know how a witness’s mental processes work, then you should be able to navigate through the witness’s mind more efficiently.

As you indicated earlier, you’ve listened to many hours of recordings of interviews conducted by accident investigators and police. Are there particular recurring mistakes that even experienced interviewers tend to fall into?

Yes. The typical kinds of errors that they make are either asking too many closed questions and not enough open-ended questions. They also interrupt frequently. Often this is because they think of a follow-up question based on what the witness says in a narrative response, and they are concerned about forgetting to ask that question. So they interrupt the witness to solve their own cognitive problem of being sure that they don’t forget to ask their question. This interruption is disruptive to the witness, who may have been about to provide more detailed information potentially helpful to the investigation.

Another kind of error that they make is asking questions immediately after the witness stops speaking. If you measure the amount of silent time between the end of a typical

witness's response and the beginning of the interviewer's follow-up question, it's probably on the order of less than a second. This precludes witnesses giving more elaborate answers. What frequently happens is that witnesses stop speaking even though they have more information because they have to go and search through their memory to unpack the rest of the answer. When the interviewer asks the next question immediately after the witness stops speaking, this may prevent witnesses from finding the rest of the answer.

There are a lot of things that even experienced interviewers do that can work against their interest by preventing people from doing the natural memory search processes that they would normally engage in.

You've trained investigators all over the world, including those from law enforcement organizations. How do police use cognitive interviewing skills in their work?

Interestingly enough, as far as interviewing goes, there has been an emphasis in law enforcement on the value of mastering interrogation techniques. And I believe this has come at the expense of interviewing techniques designed for cooperative witnesses, which are used more often, and sometimes to greater effect.

It's easy to underestimate just how difficult it is or how complex it can be to conduct a very good interview of a cooperative witness. And since the skills used for interviewing cooperative witnesses are not seen as highly valued, the law enforcement community, in general, does not receive the type of formal training that could substantially increase the productivity of their interviews and the efficacy of their investigations. Instead, too many continue to make these characteristic errors.

In fact, most crimes are solved because you have witnesses who provide information. Most crimes are not solved because of things that you see on television where you have programs like C.S.I., where they do all this ballistic stuff and analyze burn patterns and chemicals. Most crimes are solved because you have a witness who can provide information. It comes down to a memory and communication problem. Police can easily use these techniques, and that is really where we started, with police investigations.

But it's also true that these same psychological processes used by witnesses of a crime to remember the details of a crime are no different from the ones that witnesses to an accident use to remember the details of an accident, or witnesses to a plane malfunction use to recall the details of the malfunction.

Then there is the issue of content expertise, which often trumps technique. People who do these investigative interviews are typically trained only in content. So most of your aviation investigators are trained as aeronautical engineers, or they're pilots. That is, they know a lot about aviation, but they don't necessarily know about the process of how you get information from another person relevant to aviation.

In such cases, a typical procedure is to first identify all the content, because that's what they're specialists in. They know what information they need to acquire so they direct questions to each of these content areas. As a result, they end up getting lots of specific answers to specific questions yet receive almost no unsolicited information.

Asking all the questions puts a major burden on the interviewer. Since they are thinking so intently about asking questions, they miss some subtle cues that witnesses give in their descriptions, so they fail to follow these cues to obtain further information relevant to the investigation. This compromises their effectiveness as interviewers. They are experts at content, but they are missing some of the process.

Have any studies been done to show that the cognitive interview is more effective in obtaining more comprehensive and accurate information from witnesses than traditional interviewing techniques?

There are between 75 and 100 different experimental studies, about half of them done in the United States, with most of the rest coming from Great Britain, Spain, Germany and Australia. In most of those studies, the observers, the experimental witnesses, get to see a simulated crime or some innocuous non-criminal event. They are then interviewed either in a traditional fashion or by a cognitive interviewer. Generally, we find that the cognitive interview produces between 35 and 60 percent more information than the traditional interview.

One of the most interesting studies that we did was an epidemiology study of trying to get people to recall what their activity schedules were from 35 years ago. Every once in while you hear these reports from the Center for Disease Control that people who have a particular kind of lifestyle live a certain number of years longer than people who live some other lifestyle. Well, where do they get that information about what kind of lifestyle people live other than to ask them questions like, "What did you do when you were a teenager?" or "What kind of job did you have when you were twenty years old?" It's essentially a memory problem, especially when you are asking 60-year-olds what their activity levels were 30 or 40 years earlier.

So we thought that we could adopt this cognitive interview to that kind of a task. And we did, and found again that we were getting much more information about people's very early history with the cognitive interview.

We did another study, which was like a public health investigation. If a community has an outbreak of food poisoning, the public health department will get involved to try and find out where the symptomatic people purchased food in the last week, or what restaurants they ate at to determine whether or not there is a common source of infection, and if so, where it is. And this involves interviewing and memory, except that instead of remembering details about a crime, the focus is on another culprit, food.

We did a simulation of that. We had people eat foods while being videotaped so we would have a record of what they consumed. The subjects were interviewed a week later

using either a traditional public health kind of interview or a version of the cognitive interview. With the cognitive interview we were getting almost 100% more information than with the traditional one.

It's a very powerful set of techniques. There are something like 80 studies out on the topic; the cognitive interview has elicited more information in something like 77 or 78 of them. There are only two studies that show no significant differences, and there are no studies that I know of where the cognitive interview gets less information than a traditional interview.

Participants in this course have said that the cognitive interview techniques can be used in more than just formal investigations, but also in “real life,” so to speak. Is that true?

One of the things that I encourage participant to do after the first day of a two-day course, is to use some of the principles discussed in class the next time they speak to their spouse or their kids. One person told me that after using some techniques discussed in class during a casual conversation with a family member, he was told that his communication skills had improved markedly. Several people were rather amazed that they were actually able to talk to their adolescent children and have a real discussion as opposed to having the conversation terminate after one question.

These are not so related to issues of memory as they are to issues of social dynamics, but a major component of the program is learning how to engineer the social dynamics so that, one, witnesses feel that they are supposed to generate information; and two, you create the environment that makes it easy for them to provide long narrative responses. That is one of the major differences between the cognitive interview where the witness generates information and the traditional interview where the investigator attempts to extract information.

Is the course you teach at the Academy adaptable to almost any field or occupation?

The processes are very similar. The course that I teach here is similar to the course that I give to sketch artists at the F.B.I., who are typically interviewing victims of crimes. And we do some work with public health investigators, which is also a very similar process.

The social dynamics are the same regardless of the content. The memory processes are the same. The cognitive processes are the same. And the communication processes are the same. I might try to match the content being covered with examples in that area. For example, at the NTSB Academy I try to use more examples from transportation accident investigations, but when I work with police and other law enforcement groups, I'll use more police interviews

Is there anything else that you'd like to add about the usefulness and effectiveness of the cognitive interview?

I think that there are probably a lot of investigators out there who are not aware of the cognitive interview. I think people in law enforcement are probably more aware of it, but there are many other kinds of investigators, who could benefit from applying the cognitive interviewing techniques. Physicians, for example, could benefit from it since much of their work involves many small investigations, such as when they talk to patients about symptoms and medication.

I'm convinced that there are a lot of professional investigators who are simply not aware of how much they could improve the quality of their investigative interviewing by learning basic psychological principles of memory, social dynamics and communication. And this is what we have tried to do in the cognitive interview: pull all these principles together to create a series of techniques that the interviewer can use to get better results.

The next Cognitive Interviewing course is **November 15-16, 2005**:
http://www.nts.gov/academy/CourseInfo/IM401_200511.htm