

# The cognitive interview and critical incidents

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### Overview

- Critical incidents – the challenge
- Cognitive interviews – a response
- The nature of narrative
- Interview options
- Cognitive interview techniques
- Memory and emotion
- An illustration
- Further reading

### Critical Incidents: An example of the problem

(McAllister et al. 2006)

#### *Definition:*

'... a story with a climax, dilemma or issue to be addressed, but no clear resolution and when the incident is finished being told, there is still a need to ascribe some meaning to the incident before it can be resolved in the mind of the teller.' (p. 371)

#### *Instantiation:*

'I think it is because you want to adapt to stuff and you just go with the flow and if it worries you just put it in a little pile over there and keep trying. I think maybe the cleanliness over here got me to start with, 'cause you have my town [a tidy town competition winner] and then you have clean-up-Australia Day and you have garbage bins, [but here] the rubbish is everywhere and people just throw it, I still have an issue. I still hold on to mine until I find that one garbage bin so I can put it away. That I guess kind of gets me. I actually think that it's so overpopulated, even if they had the big hole in the ground like the tip and they just threw the rubbish in and didn't worry about it at least it is all in one place. And the smoking everywhere and ash all over the floor but you wear bare feet inside. I just noticed at the gamelan the last couple of days how there's ash all over everywhere, the floor everywhere and they stub it into the wood where they have been playing. It is kind of like a contradiction to do that but then you take your shoes off for the whole cleanliness thing. It doesn't really worry me—it is just an amusing contradiction.'

#### *Claim:*

'This is classic ethnocentrism where she compares Indonesian practices unfavourably with those with which she is familiar in Australia.' (p. 374)

Susan, for example, initially illustrated a highly ethnocentric view which, with more time and reflection, moderated towards a greater level of cultural awareness and acceptance. (p. 377)

## The Cognitive Interview: A definition

The cognitive interview is a method of eliciting experiential accounts that is rooted in cognitive psychology. Working on the basis that memory is associative and that retrieval of an event is more effective if situated within the context of its occurrence, it aims to use a variety of techniques to stimulate detailed recall of the event and its temporal, material and affective dimensions.

## Interview and interrogation

### *Interview*

Purpose is to gather information  
Nonaccusatory  
Free flowing  
Suspect speaks 95% of the time  
Varied locations  
Conducted in 'Personal-Social Zone'  
Writing OK if consistent  
'Miranda' [US] not legally required  
Takes approximately 30 minutes

### *Interrogation*

Purpose is to get a confession  
Accusatory  
Structured  
Suspect speaks 5% of the time  
Interrogator has 'home field' advantage  
Begins in 'Personal' ends in 'Intimate Zone'  
No writing until after suspect confesses  
'Miranda' may be legally required  
No time limit

Interviewer demonstrates truthful nonverbal behaviour in both situations

(Gordon & Fleisher 2011:34)

## Approaches to interviewing witnesses

Standard interview: Anything but standard.  
Guided memory interview: Guided step-by-step through the incident and probed for descriptions of the environment and their emotional reactions.  
Structured interview: Build rapport, allow time for narrative to develop, interrupt as little as possible. (Research indicates similar level of accuracy in reports but CI yields more detail.)  
Hypnosis: Has proved unreliable.

(Memon & Higham 1999)

## Cognitive Interview (CI) Principles

### 1. Memory/General cognition

- Limited cognitive processing resources (single tasks, no interruptions)
- Witness compatible questioning (adapt questions to witness)
- Context reinstatement (reconstruct physical, cognitive and emotional state)
- Multisensory coding (smells, sounds, etc.)

- Varied retrieval (change perspective)
2. Social dynamics
    - Active witness participation (witness is the expert and therefore in control)
    - Development of rapport (interviewer should spend time doing this)
  3. Communication
    - Promote extensive, detailed responses (invite witness to report everything)
    - Code compatible output (if sensory involves touch of fabric, supply fabric)

Holliday et al. (2009)

### **Standard CI approach**

(Based on Memon & Higham 1999)

Technique: Ask respondent to reconstruct the physical and personal contexts which existed at the time of the event.

Examples:
 

- Image of setting (objects, positions, etc.)
- Emotional responses (anger, shock, etc.)
- Sounds and smells (hot, clock ticking, etc.)

Psychological basis: 'Encoding specificity principle': effectiveness of cue depends on the extent to which it was encoded with the information to be remembered.

Evaluation: Some evidence that it is effective, but research on has produced mixed results.

Technique: Ask respondent to report everything, however trivial or apparently irrelevant

Evaluation: Use in police witness questioning suggest that it can provide valuable additional information and is especially useful where other respondents are involved.

Technique: Invite recall from a variety of perspectives

Example: See embarrassing encounter from the perspective of the person causing the embarrassment.

Psychological basis: Aim is to use multiple pathways to retrieval. Compatible with some models of memory.

Evaluation: Some evidence that it's as effective as other CI techniques in prompting additional information. However, concerns that it could lead to fabrication or confuse respondent.

Technique: Stimulate retrieval from different starting points.

Examples:
 

- Work backwards from event
- Pick up description from a memorable moment

- Psychological basis: Multiple retrieval pathways (same as recall from different perspectives)
- Evaluation: Some evidence that forward order recall followed by this may be more effective than just forward recall, but no general agreement on this.

### **Refinements of standard CI approach**

- Transfer of control: Establish strong rapport. Use open questions, timing questions in ways that are sensitive to respondents retrieval patterns rather than interviewer's protocol.
- Mental images: In contextual retrieval phase, invite respondent to form mental image of various parts of the event (e.g. face, clothes) and probe these. Research indicates that this can be misleading and that confusion between imagined and real events can arise, but good source monitoring (e.g. being careful about assigning source to a given memory) can reduce error.
- Field events: Seen from same field of vision as original events.
- Observer events: Seen from observer viewpoint with respondent as actor in scene.

(See especially Memon & Higham 1999)

### **Remember/Know**

If a participant is able to recall any aspects of an encoding event in which a stimulus was encountered, this counts as a remember response (R), whereas if the respondent feels that the item is familiar but cannot recall any contextual information, this is a know response (K).

Tulving, E. (1985). Memory and consciousness. *Canadian Psychology*, 26: 1–12.

### **Episodic memory**

Episodic memory is a recently evolved, late-developing, and early-deteriorating past-oriented memory system, more vulnerable than other memory systems to neuronal dysfunction, and probably unique to humans. It makes possible mental time travel through subjective time, from the present to the past, thus allowing one to re-experience, through auto-noetic awareness, one's own previous experiences. Its operations require, but go beyond, the semantic memory system. Retrieving information from episodic memory (remembering or conscious recollection) is contingent on the establishment of a special mental set, dubbed episodic 'retrieval mode.'

(Tulving 2002: 5)

### **Narrative 1: Invitation**

- IR: Talk me through this critical incident in terms of your (.) this project. Where (.) you know
- IE: Do you want me to actually name the countries?

IR: No, no [Okay] you can just- just- [Right] just along (.) just tell me what happened at that meeting as a critical incident, something that changed your (.) or where you realised something, or opened your eyes to something.

[Jason: CI-000015]

IR: Okay, let's talk about the incident. Would you just like to talk me through it, tell me the story of what happened.

[Jessica: CI-000455]

### **Narrative 2: Abstract and orientation**

IE: We knew that (.) there could well be some drama (.) at- at this meeting. Ehm we'd been planning for it (.) ehm (.) for (.) several months, ehm, and it was (.) the essential (.) our- (.) well we came at it- (.) our goals (.) at that meeting were to (.) er (.) get funding to drill a series of wells. And because of the difficulty of the area we were operating in (.) and (.) just to explain, (.) er we were the head office representatives of the operator. [Okay] Of that block. Ehm, and (.) the point of the meeting was to go to the other (.) partners (.) ehm (.) who (.) had come from all over the world, who had a financial stake in this project with us. We were the operators, we were managing the project. So ehm our role was to (ehm) make sure that our staff locally were (.) doing their work properly, and that had- put together the proposal, and then to work with them to persuade (.) the other partners to stump up their share of the money [Right] to move everything forward.

[Jason: CI-000127]

### **Narrative 3: Transfer of control?**

IE: and then to work with them to persuade (.) the other partners to stump up their share of the money

IR: Right

IE: to move everything forward.

IR: Okay

IE: And we had government orga- ehm obligations to do a certain amount of drilling in a certain time.

IR: Right

IE: Otherwise we were hit with massive penalties.

IR: Okay

IE: Right?

IR: A lot at stake.

IE: Right.

[Jason: CI-000127]

## Identifying the focus

IR: What I'm going to do is I'm going to focus if it's okay on that (.) on that exchange, the key- I want to just check that this [mm] is the key moment that- you've just had the Bigendians announcing (.) you know, at the very moment that the Bigendians announced that there's not going to be the money, and the Laputian explosion that follows that. We'll leave what's preceded it because you've explained that very clearly. I'd like to just focus on that on that moment a little bit more if that's okay.  
[Jason: CI-001450]

## Physical context and actions

IR: What I would like you to do at that very very moment, where the er the Laputian representative is just about to explode, I mean the Bigendians have just said 'Hey, no money,' can you describe in as much detail as possible, the room, the table, who's sitting where, where you're sitting. I want to be in the room. Can you do that.  
[Jason: CI-001846]

IR: ...and says 'No,' you know, 'you're not having the money.' And then wha- (...) Visually what happens.  
[Jason: CI-003600]

## Sensory aspects

IR: ...and the other boy is now starting to read. And I'd like you to talk me through that. But- but first of all, can you again, (.) getting the scent of paint if you can actually in your nose, I mean do it in the present tense this time. Actually put yourself there.  
[Jessica CI2-001904]

## Feelings

IR: And at that point, you've seen this explosion, I- I guess the- the outcome hasn't surprised you. What are you feeling in terms of you know the  
IE: I'm shocked. I- I- I mean I've never seen ... It just shocked me that (.) someone would do that in this level of meeting.  
[Jason: CI-003917]  
IE: I'm angry, I'm ehm (.) a bit annoyed, and I really don't know exactly how I should just (.) react, but I have this plan of making them reading it.  
[Jessica: CI2-002017]

## Emotions and memory

By remaining at a general or abstract level of information, individuals attempt to avoid the reactivation of acute and painful emotions felt in specific experiences of personal relevance. The general tendency to avoid reactivation of unpleasant memories and emotions may nonetheless be overcome with the application of memory-enhancing principles of the Cognitive Interview when assisting a person in information retrieval.

(Sven & Engelberg 2008: 75)

## The (un)reliability of memory

'As with other forms of social influence, false memories are contagious; one person's memory can be infected by another person's errors.' (Roediger et al. 2001: 365)

'What we take away from our various social interactions can have complex effects on our own later behaviour, remembering included, and can shape what we then bring to the other group contexts we inhabit. Under some conditions, for example, recollection of shared past events may converge with those of others with whom they have been discussed, or may incorporate information encountered only from other people and not originally encoded.'

(Barnier & Sutton 2008: 178-179)

## Awareness of memory processes

I think (.) what I (...) remember there is going to be coloured by what there is now, (.) but I don't (...) recall there has been any significant difference.

[Laura: CI-001306]

I'm using some of the memor- memory of my present because it's the same room.

[Jessica: CI2-004248]

## The dog that didn't bark 1

she was going much more off the rails than I had realised

what was most upsetting was the realisation that the- the really lovely, easy, sweet-natured honest child that I had always known was definitely gone, or at least temporarily mislaid

she appeared m- h- completely unmoved by what I was trying to say to her about [clears throat] my shock and my hurt

## The dog that didn't bark 2

I don't just mean kind of trust in her I mean trust in my outlook on life

trust had been broken in terms of the fact that you know I- I I (.) I I was being I must have been lied to

I thought the relationship would be different because I think if you trust somebody and then realise you can't trust them, I think that does affect how then you you- you deal with them and you interact with them, you live with them in the future basically.

## The dog that didn't bark 3

I saw **no** recognition in her that she felt that she either had done anything wrong

there was no really emotion or (.) or feeling (.) or or or (.) or sadness

She didn't seem to care about what her teachers, I s- I suppose bottom line is (.) she didn't seem to care about what her teachers had been saying about her, and she didn't really seem to care about (...) my clearly very upset and hurt feelings

#### **The dog that didn't bark 4**

She is (...) as far away (.) on the sofa as (.) she could be from me but she's not (...) facing me. I'm (.) I'm- (.) looking at her from a sideways position, she is sitting with (.) on the sofa with her back to the sofa, ehm (.) not (...) e- (.) really engaging in much if any eye contact with me. That to me (.) ehm (.) if you like from a moral point of view was was was *kind of* (.) was was worse, (.) was was was *was much* worse really.

#### **The dog that didn't bark 5**

I also felt ehm quite betrayed really because not that long before (.) that, before this happened, we had actually got my daughter a dog, which was a huge decision we had based the decision on (.) actually this being an important thing to do for her. I know that there shouldn't have been any direct connection but in my mind there definitely was and I did feel very (.) betrayed by that. Ehm. But she she (.) was apparently totally unmoved by that. that for me (.) was (.) was a point (.) was the point at which I- I realised I was facing (...) er a- a- a- a- a (.) ehm (.) a- a- a difference in in in my relationship with her because I knew it wouldn't and couldn't be the same

#### **The dog that didn't bark 6**

Prior to the prior to the (.) my (.) comments about the dog and how I felt (...) I was still thinking at that point well this might fall (.) something- the- this might depending on how she reacts to this with- w- with (.) with something of an understanding or an element of remorse then, that would mean there's something inside her which would tell me that there was- there was still some part there, that I could (.) trust or hope to trust, and when that got no reaction whatsoever when she clearly (.) couldn't care less about anything to do with that, then that was kind of my last little (...) drop of hope *gone* at that point.

#### **The dog that didn't bark 7**

she had just a- a look, on her face, which was just kind of you know (.) yeah I've got to sit here and listen to this and then I just want to be out of here as soon as possible basically. Ehm so for me the dog was a huge issue and the be- (.) the betrayal therefore (.) that was all tied in together. No- clearly, yes, *I think, yeah* absolutely I'm sure before I walked out of that school, you know, the dog was going to form part of it. [Yes] No, the- there will have been absolutely no doubt about that. *For me* that was *huge* and it was (.) eh you know, perhaps not directly connected but in my mind it was very relevant.'

#### **Other uses, other definitions**

There are two major sub-types of cognitive interviewing methods, referred to as think-aloud interviewing, and verbal probing techniques.

Willis, G. B. (1999). Cognitive Interviewing: A 'How To' Guide. Research Triangle Institute.

## The cognitive interview: References and reading

The standard work on the sort of interviews discussed in the talk is Gordon and Fleisher (2011), though Fisher & Geiselman (1992) is also relevant. Particularly useful introductions can be found in Memon & Higham (1999) and Holliday et al. (2009).

Willis, G. B. (1999). *Cognitive Interviewing: A 'How To' Guide*. Research Triangle Institute. <http://www.uiowa.edu/~c07b209/interview.pdf>

*Although it has some useful general advice, this is essentially an adaptation of the original approach and would not be appropriate for use with critical incidents. However, because it describes how to use the technique in order to improve survey design, it is potentially valuable to researchers using this method. A more academic treatment is available in Beatty & Willis (2007).*

Shafer, K. and Lohse, B. (n.d.) *How to Conduct a Cognitive Interview: A Nutrition Education Example*.

[http://www.au.af.mil/au/awc/awcgate/usda/cog\\_interview.pdf](http://www.au.af.mil/au/awc/awcgate/usda/cog_interview.pdf)

*This is very basic and a lot of the advice applies to all interviews. It focuses on the use of cognitive interviews for improving educational materials related to nutrition.*

Barnier, A. J. and Sutton, J. (2008). From individual to collective memory: Theoretical and empirical perspectives. *Memory*, 16:3, 177–182

Beatty, P. C. and Willis, G. B. (2007). Research synthesis: The practice of cognitive interviewing. *Public Opinion Quarterly*, 71(2): 287–311.

Fisher, R. P., Geiselman, R. E. and Amador, M. (1989). Field test of the cognitive interview: Enhancing the recollection of actual victims and witnesses of crime. *Journal of Applied Psychology*, 74(5): 722–727.

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Holliday, R. E., Brainerd, C. J., Reyna, V. F. and Humphries, J. E. (2009). The cognitive interview: Research and practice across the lifespan. In R. Bull, T. Valentine and T. Williamson (eds), *Handbook of Psychology of Investigative Interviewing: Current Developments and Future Directions*, pp. 137–160.. London: John Wiley & Sons.

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Loftus, Elizabeth E. (1979/1996). *Eyewitness Testimony*. Cambridge Mass.: Harvard University Press.

Memon, A. and Higham, P. A. (1999). A review of the cognitive interview. *Psychology, Crime & Law*, 5: 177–196.

Roediger III, H. L., Meade, M. L. and Bergman, E. T. (2001). Social contagion of memory. *Psychonomic Bulletin & Review*, 8(2): 365–371.

Sven, C. and Engelberg, E. (2008). Remembering emotional events: The relevance of memory for associated emotions. B. Uttl, N. Ohta and A. L. Siegenthaler (eds), *Memory and Emotion: Interdisciplinary Perspectives*, pp. 59–82.. London: John Wiley & Sons

Tulving, E. (1985). Memory and consciousness. *Canadian Psychology*, 26: 1–12.