

The role of initial witness accounts within the investigative process

Fiona Gabbert (Goldsmiths University of London), Lorraine Hope (University of Portsmouth), Elisabeth Carter (Buckinghamshire New University), Roel Boon (The National Police of the Netherlands), Ron Fisher (Florida International University)

Forensic investigations are an attempt to recreate a criminal incident in order to understand the truth about what happened and who was involved. The goal of any successful investigation is for the police to apprehend the perpetrators and gather sufficient reliable evidence for legal proceedings. At the outset, witness evidence often directs the entire investigatory process, while in the latter stages of an investigation it plays a central role in legal decision-making and the delivery of justice (Ridley, Gabbert, & La Rooy, 2013; Shepherd & Griffiths, 2013). The current chapter focuses on the role of initial accounts within the investigative process. We address the following questions;

- What are initial accounts and who elicits them?
- What should be considered when eliciting an initial account?
- How do the goals of initial accounts differ from the goals of subsequent interviews?
- Does the format of the initial account matter?
- Does the quality of the initial account affect the quality of subsequent accounts?
- Does providing an initial account inoculate against the effects of misleading questions?
- Do inconsistencies between the initial and subsequent account/s mean that the witness is unreliable?

What are initial accounts and who elicits them?

Police emergency call handlers are often the first point of police contact for witnesses and victims of crime. Their role is to establish what has happened, to whom, when, and where. They will also seek information about the presence of any weapons or dangerous substances to inform decisions

on actions that should, or should not, be taken by the police and emergency services. A priority for call handlers is to determine the type of response required (police, ambulance, etc.), assign a level of urgency, and then implement the response accordingly. Once the appropriate emergency response has been dispatched the call handler has the opportunity to elicit further relevant information from the caller if appropriate, including requests for information about what happened, who was involved, where the perpetrators are now, what they looked like, etc. An advantage of gathering information at this early stage is that a witness's memory of a crime is likely to be the most detailed and most accurate because of the relatively short time interval between witnessing the crime and retrieving information from memory. However, a challenge faced by emergency call handlers is to gather priority information in a very short period of time from callers who are often distressed. Some emergency call handlers are provided with scripts to help structure the interview. Scripts typically contain context-relevant prompts (about theft, vehicle crime, criminal damage, etc.) and are used to facilitate information gathering once the nature of the call has been determined. However, the use of call scripts is not standard practice across forces, or even within the same force.

In the UK, information disclosed in an initial interview with the emergency call handler may be used as evidence in court. One area in which this is particularly pertinent is in cases of domestic violence. In 2009/10 one in three of all domestic violence cases in the UK (over 6,500) failed due to victims either retracting their evidence or failing to attend court (Keir Starmer QC, 2011: Crown Prosecution Service speech). In such cases - where a victim withdraws his or her statement but police pursue a prosecution - the emergency call can be used as evidence with or without the victim's cooperation (Crown Prosecution Service: Policy for Prosecuting Cases of Domestic Violence, 2005; Greater Manchester Police: Tackling Domestic Abuse Policy and Operational Procedures, 2010). To be defensible in court it is vital that these initial interviews are

conducted with the same high standards as investigative interviews conducted later in the investigation by trained officers and staff¹.

Relatively little is known about the quality of call centre interviews, as psychological research on emergency call handling is sparse and most research focuses on obtaining evidence at later stages in the investigation process. A literature search yielded only three published studies examining call-centre calls from an interviewing perspective (Leeney & Müller-Johnson, 2010; 2011; Pescod, Wilcock, & Milne 2013), and one unpublished masters thesis (Ambler, 2005). Leeney and Müller-Johnson (2011) examined 40 emergency calls from a single UK police force, coding the interaction between caller and call handler, the types of questions used and the information obtained. The researchers found that 88.5% of questions asked during the calls were productive questions; these included open questions, as well as closed questions to obtain factual information (What is your phone number?, Is anyone injured?, Is an ambulance needed?). Unproductive questions accounted for 11.5% of all questions asked, consisting of inappropriate and potentially suggestive closed (yes/no) questions that introduced new information to the caller. Leading questions, forced choice, and multiple questions were also observed in call handler interviews. This is of particular concern as questions of this nature can have a significant detrimental effect on witness memory, as well as the potential to mislead a police investigation or render witness evidence inadmissible in court. The call handlers in Leeney and Müller-Johnson's (2011) sample used call scripts 42.5% of the time. Interestingly, when call handlers used scripts, they relied on fewer questions to elicit the same amount of information. Specifically, call handlers using a script used more open questions to elicit information, and fewer suggestive and unproductive questions. This finding suggests that the use of call scripts is beneficial both in providing a structure for the call taker and in promoting good interview practice.

¹ When referring to officers throughout the chapter, we also encompass relevant non-sworn police staff.

Following Leeney and Müller-Johnson's (2011) promising findings relating to the use of scripts, Pescod et al. (2013) developed a protocol for use in police call-centres using the 'Report Everything' instruction from the Cognitive Interview (Fisher & Geiselman, 1992). This was compared against 'the five Wh-questioning strategy' (where, when, who, what, and why), and a control condition where participants were instructed to provide brief details of the incident. Pescod et al. found that the Report Everything instruction elicited significantly more information than the other conditions, with no significant differences in accuracy rates between the conditions. This instruction also elicited significantly more correct person description details. This is a promising finding as witnesses tend to struggle with providing police with good quality person descriptions (Brown, Lloyd-Jones & Robinson, 2008; Gabbert & Brown, in press; Kebbell & Milne, 1998). For instance, Leeney and Müller-Johnson (2011) found that although perpetrator details were reported in 40% of the calls in their sample, only 6.25% of the responses contained information on physical features of the perpetrator.

Once an incident has been called-in by a witness or victim, it is often the job of frontline police officers to attend and conduct interviews at the scene. During the first minutes and hours after an incident, these officers are primarily concerned with increasing the probability of apprehending the perpetrator/s and securing public safety, while other emergency responders administer first aid if required. The frontline officers may receive some information from the caller in the emergency control centre, but communication with witnesses at the crime scene is another direct source of information. These interviews typically focus on eliciting perpetrator descriptions and obtaining information about weapon presence and escape routes. Person descriptions in particular are often vital in the immediate stages of an investigation, especially when a search is initiated for an unknown suspect who might still be in close proximity to the crime scene. However, as with call-centre interviews, the speed of gathering information is often prioritised. Person descriptions obtained are generally poor, such that they fit a large number of people rather than distinguishing someone from a crowd (Sporer, 1996; Van Koppen & Lochun,

1997). This is problematic because the more vague a perpetrator description is, the greater the chance of a false positive error when apprehending a suspect. Furthermore, in the UK, the Police and Criminal Evidence Act Code of Practice for England and Wales requires that a record must be made of the suspect's description *as first given by a witness* (PACE Code D, 2013; emphasis added). It is, therefore, important for the initial description of the perpetrator/s to be as detailed as possible.

The quality of investigative interview skills amongst frontline officers is a cause for concern, particularly as these officers have a relative lack of policing experience and training (Dando, Wilcock, & Milne, 2008). Furthermore, there is often a lack of resources in terms of the availability of time, expertise, or personnel to conduct interviews shortly after an incident has been reported. For instance, if there are multiple witnesses at a crime scene, then officers may face difficult choices in prioritising who to interview. In direct response to this challenge, Gabbert, Hope, and Fisher (2009) developed a Self-Administered Interview (SAI©) to address two important and related issues facing police investigators, (i) The serious resource challenge faced by investigators when an incident occurs for which there are numerous eyewitnesses, and (ii) The need to maintain ethical, transparent, effective and responsive investigative practice in the face of budget cuts and an increased focus on cost savings. The SAI© is a generic response tool in that it is suitable for obtaining information about a wide range of different incidents. It takes the form of a standardised protocol of instructions and questions that enable witnesses to provide their own statement, and is therefore ideal for use when restricted resources mean that a traditional interview is not possible. Scientific tests of the SAI© have shown that it elicits significantly more accurate and detailed information than a free-recall request. Completing an SAI© also strengthens witness memory, meaning that witnesses are protected against forgetting, and against exposure to potentially distorting post-event information (Gabbert et al., 2009; Gabbert, Hope, Fisher, & Jamieson, 2012; Hope, Gabbert, & Fisher, 2011; Gawrylowicz, Memon, & Scoboria, 2013; Hope, Gabbert, Fisher, & Jamieson, 2014). Despite being a relatively new investigative tool for officers

tasked with eliciting initial witness accounts, the SAI© has been implemented effectively in a growing number of incidents involving multiple witnesses including murders, shootings, assaults, and other major crime incidents (see Hope et al., 2011).

What should be considered when eliciting an initial account?

First responders in forensic contexts may encounter witnesses or victims in a variety of sub-optimal contexts. For instance, the immediate environment may be unsafe or unstable (e.g. on-going threat, fire, debris from bomb or natural disaster). A primary concern of first responders should be the safety of themselves and any others nearby; therefore, no attempt should be made to elicit an initial account until a safe environment has been established. The context in which victims or witnesses are encountered may also have implications for the reliability of their initial account, for example, if the victim/witness is distressed or traumatised, intoxicated. Again, in such contexts, an immediate consideration of the first responder should be ensuring the safety and well-being of the victim/witness taking consideration of their personal circumstance.

Archival analysis of intoxication among witnesses and suspects suggests that while this is a common problem, investigators are inconsistent in their approach to witnesses who may be under the influence of drugs or alcohol (Palmer, Flowe, Takarangi, & Humphries, 2013). Typically, police and others in forensic settings expect that the accounts provided by intoxicated witnesses are likely to be less reliable than those provided by sober individuals. Indeed, basic research on the effects of alcohol on memory tends to show memory impairment with intoxication. However, studies to date examining the effects of alcohol intoxication on witness memory produce somewhat inconsistent findings. For example, in a study designed to investigate the effect of alcohol on memory performance under controlled conditions, Compo, Evans, Carol, Villalba, Ham, Garcia, and Rose (2012) found that mock witnesses who were intoxicated when exposed to a staged crime event did not show noticeably impaired recall and did not appear to be more vulnerable to misinformation compared to the sober and placebo groups. It is worth noting that

levels of intoxication induced in laboratory studies is likely to be significantly lower (for ethical reasons) than in actual cases where level of intoxication is a concern for those eliciting initial accounts. Notably, in a field study conducted in bars, Van Oorsouw and Merckelback (2012) found that although the accuracy of accounts provided by intoxicated witnesses did not differ from their sober counterparts, intoxicated individuals provided significantly less information during interviews. With respect to initial interviews these results are consistent with Yuille, Tollestrup, Marxsen, Porter, and Herve's (1998) finding for witnesses who had smoked marijuana prior to witnessing an incident. Specifically, the results suggest that smoking marijuana prior to witnessing a live staged incident had a temporary negative effect on the amount of information recalled (in comparison to performance in the placebo and control groups) with little effect on accuracy or recognition. It may also be worthwhile identifying whether a witness is under the influence of prescription medicines before eliciting an initial account as there is some evidence that different types of drugs prescribed for various medical and psychological conditions may affect memory performance (see review by Norfolk, 1999). Thus, intoxication may have implications for first responders seeking to elicit detailed accounts – although further research is needed to determine the precise nature of memory deficits in applied settings?

Special care should be taken when eliciting information from people who are traumatised, including clinical intervention if necessary, depending on the degree of distress. A key initial aim in any interaction with a traumatised individual is to reduce distress levels in order to help him or her provide clearer and more complete information. In addition to intrusive thoughts/images associated with trauma memories, victims of trauma can have symptoms that interfere with communication. Additional communication barriers may also be present for those who feel their experiences are unspeakable (Dudgeon, 2012), those communicating in a second language, and those afraid of the consequences of disclosing abuse (International Rehabilitation Council for Torture Victims, 2009). Due to considerations such as these, there are often delays in eliciting an initial account from witnesses. Indeed, delays in interviewing witnesses in any situational context

are frequently unavoidable due to competing demands on resources. The quality of eyewitness accounts however is time critical. Research shows that as the delay between encoding and retrieval *increases*, the amount of information that can be recalled systematically *decreases* (Ebbinghaus, 1913/1885; Rubin & Wenzel, 1996; see also Tuckey & Brewer, 2003). The ability to remember investigatively important information such as specific details relating to descriptions, or 'who did what', also decreases over a delay, as memory becomes more gist-like with time (Conway, Cohen, & Standhope, 1991; Fisher, 1996; Goldsmith, Koriat, & Pansky, 2005; Kintsch, Welsch, Schmalhofer & Zimny, 1990; Koriat, Levy-Sadot, Edry & de Marcas, 2003; Schacter, Norman, & Koutstaal, 1998). Any delay prior to interview also increases the risk of memory contamination, as witnesses have more time in which to encounter items of new and/or misleading post-event information (Ridley et al., 2013). For example, witnesses could encounter media coverage about the witnessed incident, or discuss their memories together which can lead to 'memory conformity', where people's memory reports become similar to one another's following a discussion and appear (falsely) corroborative (see Gabbert & Hope, 2013). Thus, conducting an initial interview in a timely manner is an important consideration as the potential consequences of delay can pose significant problems when establishing a line of enquiry. However, first responders should be aware of the potential effects of both intoxication and trauma on witness memory and, on a case by case basis, be sensitive to the potential trade-offs where interviews are required to be delayed for the psychological or physiological well-being of the witness.

How do the goals of initial accounts differ from the goals of subsequent interviews?

The amount and type of information required from witnesses by the police varies at each stage of an investigation. Once the initial response has been delivered and the investigation is underway, a door-to-door inquiry, or an appeal for witnesses, might be initiated if further information is required. Door-to-door enquiries are usually conducted in the vicinity of the crime scene whereas, witness appeals are often targeted to the exact location in which the crime took place ("*Were you*

at this place, at this time, on this date? If so, did you see X?"). These types of inquiries are aimed at screening the public for potential witnesses who live or work near the crime scene and might have seen or heard what happened.

Once witnesses have been identified, investigative interviews are conducted, the goals of which are to obtain potential new leads, and/or to gather evidence for prosecution. The objective is therefore to secure as much reliable information from a witness's memory as possible. The interview therefore requires the use of thorough evidence-based interview techniques, with a focus not only on "*what happened?*", but also with a focus on "*who did what?*" and "*why?*". The 'why' of the crime is important at this stage of the investigation because it helps legal decision makers in assessing, for example, grounds for exculpation or whether an act was deliberate. The focus on 'who did what?' differs from earlier focus of 'who did it?' as many legal systems require actions attributed to individuals in order to make conviction possible. The investigative interview is one of the means for the police to answer such 'Wh-questions' (where, when, who, what, and why). It must be noted that the interviewer need not necessarily *ask* these 'Wh-questions': they should be *answered* during an investigation and the investigative interview is one of the means for that purpose. In fact, during the interview asking mainly open-ended questions (e.g. "*Tell me everything about the car*") is preferred to asking closed questions (e.g. "*What was the colour of the car?*"), because the former questioning style usually results in more accurate responses.

Repeated interviewing of the *same* witnesses about the same incident is not unusual in criminal investigations. In fact, the witness who called the emergency room might be the same witness that is addressed by a police officer at the crime scene, and again later in an investigative interview at the police station. The goals at each stage might differ, due to the timing of the interview within the investigative process and type of information required. One reason for an investigative team to invite a witness for a second interview is the availability of new information. For example, actions previously described by a witness may appear contradictory to what happened according to newly collected video camera material. The focus of the interview in such

cases is to 'problem solve' the parts of the previous account that appear to be contradictory to other available information. At any time, however, both law enforcement and investigative officers should obtain as much correct information from a witness's memory *as possible*, while minimising the risk that other recollections may be damaged or harder to retrieve.

Does the format of the initial account matter?

When considering spoken versus written formats of providing an initial account, the main areas for concern are that (i) the account is of sufficient detail and quantity, (ii) the person delivering the account is supported in the type and direction of the information, (iii) the person is protected from further harm or victimisation from the process itself, and (iv) the account is protected from contaminating factors. There is an overarching tension between the need for immediacy in eliciting accounts of critical events from witnesses, and the need for complete accounts in order to preserve the memory of the event. This tension is exacerbated with the impracticality of achieving immediate and in-depth interviews with a large number of witnesses. Much of the literature in this area is contradictory and argues variously for the use of either *spoken* or *written* accounts for accuracy, reliability, amount and quality of information and cognitive load on participants, in either format.

McPhee, Paterson, and Kemp (2013) identify difficulties in motivation that can occur in self-administered written accounts, whereby the person producing the account would be doing so without interactional feedback to motivate and structure the content. An oral interview enables the interviewer to offer support and direction to a witness while he or she provides a narrative. This can include physical feedback (hand gestures or other body movement to signal understanding), and use of social cues, that encourage interviewees to elaborate or clarify their accounts (Opdenakker, 2006; Shuy, 2003). Furthermore, oral feedback, such as prompts for additional information, offer a way of gathering elaborated accounts, thereby accessing more detailed information from the interviewee (Sauerland & Sporer, 2011, Sauerland, Krix, van Kan, Glunz, &

Sak, 2014). Without this type of interaction and direction, written statements can end up being brief (McPhee et. al. 2013). Information can also be left out as witnesses assume it might not be serious or important enough to include (Bergmann, Jacobs, Hoffmann, & Boeing, 2004), or too mundane or irrelevant to a criminal investigation (Sauerland et al., 2014). This may be attributable in part to the *CSI effect*; witness statements are rarely shown to be key evidence (Gever, 2005), with DNA or other forensic clues such as ballistic evidence most often used to identify and convict the perpetrator (Podlas, 2006). In contrast, spoken accounts conducted by the police are designed to capture the information they require to satisfy the elements of an offence (e.g. did you take the car without consent? Were you taking any drugs?; see Carter, 2011, for examples). They are conducted with the final audience in mind – anticipating the future use of the interview as evidence in court (Jönsson & Linell; 1991; Komter, 2002/3), and officers will even orient away from the interviewee’s talk in order to do so (Carter, 2011).

However, even the act of interviewing can have a real impact on the interviewee; in the context of the police interview the question-answer format has itself been described as a way in which power is displayed and accomplished (Carter, 2011; Watson 1990). Grabowski (2007) and Wagstaff, et al. (2008) found that the presence of an interviewer may increase cognitive load as a result of the autonomy of the speaker being compromised, and therefore diminish the witness’s capacity for memory recall. In contrast, the visual presentation of questions in written format reduces the demands on ‘working memory’ (Chang & Krosnick, 2010), meaning that in written conditions, event recall could be unencumbered by other cognitive demands associated with processing verbal questions. This is supported by Sauerland et al. (2014), who show that when detailed guidance that explicitly discouraged guessing was given to participants providing written accounts, this led to more relevant information being provided in written accounts, including increased accuracy and detail.

Written accounts might disadvantage people who are unmotivated or non-compliant (Hope, Gabbert, Heaton-Armstrong, & Wolchover, 2013), due to the ordinary association of written

accounts with non-social situations (as opposed to the potentially motivating presence of an interviewer in oral accounts). Witnesses asked to produce written accounts may also be disadvantaged by this modality if they are unaccustomed to writing, embarrassed about writing through handwriting or spelling difficulties (McPhee et al., 2013) or less able to communicate as eruditely through writing as they would orally (Hope et al., 2011; McPhee et al. 2013). Written accounts may also not be appropriate for vulnerable witnesses for whom special measures are necessary. McPhee et al. (2013) found that spoken accounts are 'less effortful' than written, and Sauerland and Sporer (2011) and Kellogg (2007) suggest that written witness statements are more cognitively demanding than their oral counterparts, due to the task involving committing memories to words on the page rather than verbalising the same statement. This effect can be alleviated through typing, rather than writing the account, in the case of witnesses with weaker cognitive abilities (Chang & Krosnick, 2010), although this may relate to the speed at which the account can be communicated.

In a direct comparison of written and verbal accounts, Sauerland and Sporer (2011) examined the levels of detail and accuracy between the two modes of communication in free recall and open ended questions in both the spoken and written conditions, with separate tasks for describing the crime (a theft) and the perpetrator. They found with regards to crime descriptions, the spoken accounts yielded more details and were more accurate in descriptions that were central to the crime and that spoken accounts also yielded a higher quantity and accuracy with regards to key elements of perpetrator descriptions. This suggests that a written account would not be as effective as one elicited through oral interviews for the type of (critical) information an initial account would seek to gain. Kellogg (2007) also found that spoken reports were more complete and more accurate than written. More recently, McPhee et al. (2013) reported both spoken and written accounts provided the same quality, the same amount of information, with the same level of accuracy, although this may have been an effect of the isolation of the participants from interviewers in the spoken condition, which prevented interviewer-interviewee interaction.

Sauerland et al. (2014) subsequently concluded that written accounts yielded more quantity and detail (but not accuracy) than accounts that were spoken into a recording device. However, Sauerland et al.'s research did not allow the interviewer to deviate from the set questions asked in both spoken and written conditions, which also eliminates any potential benefit from probing questions or reformulations.

Often, oral interviews with witnesses or victims can be seen as co-constructed accounts by the interviewer and interviewee. They involve officers' reformulations of accounts produced by the interviewee, for example, reformulating information provided by suspects into offence-specific narratives that satisfy the elements of the offence, reflecting the officer's overall objective of the interview (Stokoe & Edwards, 2008). This can also happen with witness and victim interviews; reformulations by officers can repackage the account into the appropriate format to satisfy the procedural, investigative and bureaucratic concerns of the criminal justice system (Carter, 2011), such as the court's preference for linear narratives. This active reformulating of accounts relies on the sequential interaction between interviewer and interviewee of 'live' interaction (Carter, 2011; Hester & Eglin, 1992; Heydon, 2005; Watson, 1990), which is absent from accounts written by one party without interaction from another. Although it is possible for officers to seek clarification on descriptions, dates, times, and other potentially significant details of the accounts that might be missing or unclear from the written account, this will be delayed until after the account is produced and would not form an organic part of building and developing the interview interaction. The witness would have to revisit their account, which may have an adverse effect in that they may interpret the officer's request for clarification as a signal that they have provided insufficient, inadequate or incorrect information.

In addition to the interactional differences associated with spoken and written accounts, the lack of face-to-face interaction restricts rapport-building and creating a 'natural' encounter (Shuy, 2003), but this may also mean that a witness writing an account is more likely to impart information of a more personal nature, or provide more details that they may be embarrassed to

talk about. Chang and Krosnick (2010) found that, without an interviewer, respondents were more likely to produce a truthful account when addressing topics that may be less socially desirable, or concern sensitive issues. Chang and Krosnick (2010) also show how their empirical research reflects the wider body of work that spans a range of contexts, including medical, sexual, religious, and political situations. A witness might edit their account of their role in an event to mitigate potential social judgments of the interviewer, for example, omitting socially undesirable drinking or drug-taking from their account, whereas this may be an important part of the story or an important contextualising feature with regards to an assailant's *Modus operandi* (see also Jones & Forrest, 1992).

Witnesses providing written accounts have control over the pace and content of the output (Grabowski, 2007), with less real or perceived pressure to complete the account quickly than in oral accounts to an interviewer, where the interactional structure of talk requires a response in a timely fashion, in accordance with the cooperative principle of conversation (Grice, 1975). Although witnesses should be reassured that they have plenty of time to think about their responses, they will be interactionally drawn to respond without delay (Carter, 2014). There is a flexibility embedded in the written medium that can be drawn on if needed by the witness; witnesses can spend varying amounts of time on each question to reflect or answer quickly as needed (Chang & Krosnick, 2010). This would give the witness more ownership over the account which is a positive thing for witnesses or victims of a crime. The absence of an interviewer may also enable the witness to reflect on the event and elaborate on details without reactions from an officer, or time constraints influencing or affecting them; increased pace associated with oral interviewing has an effect on the quality of the account elicited from the participant (Chang & Krosnick, 2010).

Despite the conflicting evidence pertaining to the advantages and disadvantages of spoken and written accounts, the retrieval of information and memories of an event from witnesses is time-critical (as discussed above). McPhee et al. (2013) suggest that it is better to elicit an

immediate account from a witness, either spoken or written, than to wait to do so. Given that initial accounts are most likely to be enlisted following events involving large numbers of witnesses that require the elicitation of critical information, and that cognitive or in-depth interviews may not be appropriate or possible in these scenarios, it is suggested that either format would be preferable to delaying the elicitation of an account in order to seek one format over the other. One of the major benefits of written accounts is the ability to reach a large number of witnesses and gather information from them in a formulaic fashion that is advantageous in the early stages of basic data gathering for investigative purposes (of course, flexibility and detailed accounts are preferred, but are not necessarily available, as discussed above). Written accounts therefore offer more data towards the investigation on a larger scale than the Criminal Justice System would ordinarily be able to draw upon. This can only lead to better informed decisions about the case and its disposal; a key principle behind initial accounts.

The transformation that often takes place in rendering a spoken account into written format (and specifically into a predetermined framework that these accounts must fill for evidentiary and bureaucratic purposes) has a retroactive effect on the account. This transition from a spoken-to-written-account is regularly performed so that a representation of the taped interview, rather than the interview itself, is heard in court. In doing so, much detail is stripped from the interaction, which is then either absent, or reanimated by a police officer and prosecuting attorney (acting the parts of the police officer and the interviewed) in the manner of their choosing when it is read aloud in court. Haworth (2010) and Jönsson and Linell (1991) discuss (deliberate or accidental) transformations from spoken to written format, and describe cases where the transformation has had serious effects on the content of the interview, which has obvious implications for the administration of justice in the courtroom. Momenii (2012) draws together research in this area and discusses the role of forensic linguistics in identifying and alleviating the associated difficulties with this practice. Whether the account is given in spoken or written format, it is evidentially best for it to remain in that format rather than be transformed to the other.

Does the quality of the initial account affect the quality of subsequent accounts?

Research lends support to the finding that engaging in a *high quality* initial recall attempt facilitates an enhanced delayed recall. Specifically, repeated retrieval attempts may be facilitated by a good, and impeded by a bad, quality initial recall respectively (e.g., Hashtroudi, Johnson, Vnek & Ferguson, 1994; Marsh, Tversky & Hutson, 2005; Suengas & Johnson, 1988; Tversky & Marsh, 2000; though see McCauley & Fisher, 1995). Theoretical models of memory suggest that an immediate *high-quality* recall may support subsequent recall attempts from episodic memory because it increases the activation levels of items in memory and the associations between them (Anderson, 1983). Thus, subsequent cued-questions for target information within an investigative interview are likely to be effective, in comparison to a situation where no initial retrieval attempt has taken place. In contrast, a *poor-quality* initial recall attempt can impair later recall, because it reduces access to information not recalled initially (retrieval inhibition, see Anderson, Bjork, & Bjork, 1994; Levy & Anderson, 2002). Thus, initial accounts should be as complete as possible, as memories can be distorted or lost through an earlier incomplete retrieval (MacLeod, 2002). Shaw, Bjork, and Handal (1995) demonstrated this 'retrieval induced forgetting' phenomenon using an eyewitness paradigm where participants were asked to encode details of a scene and then report what they could recall about particular target items on three occasions such that some items became 'practised' (in that they were reported on multiple occasions) whereas others did not. When later trying to recall the scene as a whole it was found that some details had been suppressed as a direct consequence of the practised items 'overshadowing' them and making them disproportionately less accessible. MacLeod (2002) reported similar effects relating to the description of a suspect where subsets of descriptive information had been subject to repeated questioning, resulting in a limited ability to provide a description as a whole.

In a recent study, Hope et al. (2014) examined the impact of initial account format on performance in a later interview. Mock witnesses viewed a simulated crime event and provided an

initial account (using either a Self-Administered Interview (SAI©) or a Free Recall Instruction) or did not provide an initial account. One week later, all mock witnesses were interviewed with a Cognitive Interview. In the interview, mock witnesses who had provided an account using an SAI© reported more correct information and maintained higher accuracy than those who had completed a free recall (or not provided an initial account at all). An examination of consistency between the initial account and the subsequent interview suggested that the SAI© was most effective because it preserved more of the originally recalled items (than did an initial free recall).

Does providing an initial account inoculate against the effects of misleading questions?

Relevant literature suggests that a good quality preliminary interview will strengthen a witness's memory, thus offering protection against exposure to misleading post-event information (PEI) encountered in the form of suggestive questions or from other sources such as discussions with a co-witness. This is because having a 'strong' original memory for an event increases the likelihood that individuals detect, and are therefore able to reject, discrepancies between their original memories for the event and any PEI received (Garry, Loftus, & Brown, 1994; Hall, Loftus, & Tousignant, 1984; Loftus, 2005; Loftus, Levidow, & Duensing, 1992; Tousignant, Hall, & Loftus, 1986). Geiselman, Fisher, Cohen, Holland, and Surtes (1986) found that mock witnesses were less susceptible to the effects of misleading questions when a Cognitive Interview (CI) had been administered prior to the misleading questions being encountered. In contrast, a CI given after the leading and misleading questions conferred no benefits with respect to attenuating witness vulnerability to misleading questions.

Similar conclusions were reached by Memon, Zaragoza, Clifford, and Kidd (2010), who gave mock-witnesses a CI either prior to, or immediately after, a suggestive interview where they were encouraged to confabulate in order to provide responses to 'impossible' questions. One week later, all participants returned for a final interview. It was found that participants who had been given a CI prior to (but not following) the suggestive interview reported significantly fewer forced

fabrications in their final interview, leading the researchers to conclude that a CI given prior to misleading information has protective benefits. Although Memon et al. did not draw explicitly on the notion of discrepancy detection, their findings support the idea that participants are better able to be vigilant against discrepancies if their memory for a target event is strengthened (though see LaPaglia, Wilford, Rivard, Chan, & Fisher, 2014).

More recently, Gabbert et al. (2012) investigated whether an early recall opportunity, in the form of a Self-Administered Interview (SAI), protected against the negative consequences of exposure to misleading PEI. In two studies, participants viewed a mock crime event, after which half immediately recorded their account using the SAI. Control participants did not have an immediate recall opportunity. Following a delay, participants were presented with misinformation encountered either in a misleading news report (Study 1) or in the form of misleading cued-recall questions (Study 2). Study 1 found that completing a SAI shortly after witnessing an event significantly increased the amount of accurate information reported in a delayed recall test, in comparison with the performance of control participants. Almost twice as many accurate details were reported after a delay by SAI than control participants. Furthermore, SAI participants were significantly less likely than controls to errantly report items of misleading PEI that had been encountered in the news report during the delay period. Study 2 also found that participants who had an opportunity to complete a SAI after witnessing a mock-crime event had a better memory than control participants, and that SAI participants were less likely to attempt to answer misleading questions by reporting confabulated responses. Both studies found a significant negative correlation between the number of accurate items of information reported and the number of items of misinformation reported.

Taken together, these studies suggest that a good quality preliminary interview can decrease the likelihood of the undesirable effects of exposure to misinformation or suggestive questions. It is reasonable to suggest that this is because a preliminary interview can strengthen memory for the originally encoded event, thus protecting it against the negative effects of

exposure to misleading suggestions. Of course, this assumes that the preliminary interview is conducted prior to exposure to potentially misleading or contaminating information.

In contrast to these findings, however, a series of studies by Chan, Thomas and Bulevich (2009) has found evidence that an immediate test can actually exacerbate susceptibility to being influenced by misleading PEI. Specifically, participants who engaged in an early recall opportunity about an event, followed by exposure to a misleading narrative, were significantly more prone to reporting items of misleading PEI in a final recall test. These findings are somewhat counter-intuitive based upon current memory theory, and at odds with the findings of Geiselman et al. (1986), Memon et al. (2009), and Gabbert et al. (2012). These contradictory findings may reflect an important methodological difference in the nature of recall test used. Specifically, the studies reporting positive effects of an early recall opportunity featured participants freely reporting their memories, whereas Chan et al. used a battery of cued-recall questions to elicit an initial recall.

To explore whether the contrasting findings can be explained by the type of immediate recall test used, Gabbert, Hope, Lindsay, Skowronska, and Sauer (2011) conducted an experiment where participants viewed a simulated crime incident and were immediately tested with either a free- or cued- recall test (a control group had no initial recall). Participants then listened to a summary of the event containing both accurate and misleading PEI before completing a final recall test. Participants who had completed an initial Cued-Recall test were significantly more susceptible to the misleading PEI than participants in the Free-Recall and Control conditions (who did not differ). These results, and those of Chan et al., suggest that the *type* of immediate test influences whether participants are more, or less, influenced by misleading post-event suggestions. These conclusions are partially supported by a more recent study by Wang, Paterson, and Kemp (2014), who also manipulated the type of initial recall test (free-recall, cued-recall, or no test) to explore whether this can inoculate or exacerbate susceptibility to misleading PEI. Here it was

found that both types of initial test, in comparison to the no-test condition, protected memory against the misleading PEI.

Do inconsistencies between the initial and subsequent account(s) mean that the witness is unreliable?

Witnesses are often interviewed on more than one occasion during an investigation. The consistency of information reported on each occasion can influence the perceived credibility of a witness. Witness inconsistency is sometimes incorrectly interpreted as being a diagnostic cue to witness inaccuracy on the grounds that inconsistency suggests poor memory. However, there are different types of inconsistency: *omissions* (leaving out a detail that was mentioned in a previous account), *reminiscence* (reporting new details in later interviews that had not been mentioned previously), and *contradictions* (contradicting an item of information that had been mentioned previously), and each one has a different relationship with accuracy.

Reporting new information (reminiscence) is sometimes viewed with suspicion because an increase in recall runs counter to the intuitive principle that memory decays over time. However, the psychological literature suggests that reminiscence is a common feature of repeated recall accounts (see Fisher, Brewer, & Mitchell, 2009; Gilbert & Fisher, 2006; Hope, Gabbert, Fisher, & Jamieson, 2014; La Rooy, Lamb, & Pipe, 2009). When witnesses are interviewed more than once, new information can be reported on later occasions for different reasons. The first is because a goal of re-interviewing is often to obtain additional information from witnesses, and so interviewers ask different questions to elicit different/new information. Recollection reflects not only the contents of the memory store but also the process of retrieval (Tulving, 1983). Thus, if the retrieval processes applied on two occasions differ (e.g., accessing the memory differently depending on which questions are asked), then the information that is reported may differ, even if the contents of memory do not change. The retrieval process is therefore partially determined by the specific question that is asked. In general, the more the retrieval cues (questions) differ across

interviews, the more dissimilar the recollections will be on the two interviews (Fisher et al., 2009; Gilbert & Fisher, 2006). Reminiscence may occur, therefore, if a retrieval cue is present on the second interview, but not on the first interview.

Related to this is a second reason why witnesses report new information; the amount of information volunteered by witnesses is based upon their perceived expectations of the interviewer. Thus, if a witness is interviewed a second time he or she may feel that they did not provide enough information previously. People regulate the amount of information they report depending on their interpretation of the context (Koriat & Goldsmith, 1996). It should not be overlooked however, that new information is sometimes reported because the witness has encountered some influential 'post-event information' from another source, such as another witness, the media, or even from the police investigators. In this instance the witness's reminiscent recollections do not necessarily reflect his or her memory of the incident itself, but rather what he or she learned about the event afterwards from potentially misleading sources.

How likely is it that new information obtained in subsequent interviews is accurate? An informative piece of research designed to address this very question was conducted by Gilbert and Fisher (2006). Mock witnesses watched a three-minute videotape of a simulated bank robbery. After a short delay they were asked to write down as many details as they could remember, acting as if it was a genuine incident that they had just seen. Half of the participants were simply asked to '*describe the robbery*' while the other half were given instructions to '*describe the robbery in four different ways*' (e.g., in chronological order, followed by reverse order) to facilitate retrieval. Two days later participants returned to take part in a second recall task, and either received the same retrieval cues as before (e.g. '*describe the robbery*' on both occasions) or the alternative retrieval cues (e.g., instructions to '*describe the robbery*' at the first recall attempt, and to '*describe the robbery in four different ways*' at the second recall attempt). The information reported across the two interviews was examined by categorising reported details as one of four types: consistent,

contradictory, reminiscent, and forgotten details. Accuracy rates were examined within each category, as well exploring how these related to the accuracy of the statement as a whole.

Gilbert and Fisher (2006) found that reminiscence was a common phenomenon; 189 out of 192 (98%) mock-witnesses made at least two reminiscent recollections in their second recall attempt. As predicted, when the retrieval cues changed from the first retrieval attempt to the second, witnesses made almost twice as many reminiscent statements (10.1) as when the same cues were given (6.1). The accuracy of the reminiscent details was 87%, indicating that a large proportion of newly reported information is accurate. In comparison, 95% of consistently reported details were accurate, and 93% of the forgotten details were accurate. These findings were replicated in a recent study by Hope et al. (2014), who found that 100% of their sample reported at least one reminiscent detail in a second interview. The accuracy rates were 90% for reminiscent details, and 96% for consistently reported details.

When examining the relationship between reminiscence and the accuracy of the statement as a whole, Gilbert and Fisher (2006) found that the prevalence of reminiscent details was *not* predictive of overall accuracy. Furthermore, a comparison of a sample of the *most* and *least* consistent witnesses found only minimal difference in the accuracy of their overall statement. This is because a person's memory for a complex event comprises a number of components (visual information, auditory information, temporal and contextual details, cognitive interpretations, emotional reactions, etc.). Each component of the memory can be processed independently of one another, despite being part of an associated network that collectively represents the memory as a whole (Fisher et al., 2009). Thus, witnesses who incorrectly recall the details of a perpetrator's weapon are not unduly inaccurate in recalling the perpetrator, and vice versa. In sum, if a witness fails to recall a component on one occasion, or if one component of the memory is proven to be in error, this does not mean that other components of the memory will also be incorrect.

Another type of inconsistency that can occur between an initial report and subsequent statements is when a witness contradicts him or herself (e.g., saying on one occasion that a

perpetrator was clean-shaven, and on another occasion that he had a beard). It is obvious here that at least one of the two contradictory responses must be incorrect. As such, contradictory details tend to have a very low accuracy rate. Gilbert and Fisher (2006) found that 49% of contradictory statements were accurate. Witnesses might directly contradict a detail they reported previously because they have encountered some post-event information that has influenced their recollection, or because they have simply made a mistake. However, once again, research has demonstrated that the proportion of contradictions in a repeated recall attempt is a poor predictor of overall accuracy (Fisher & Cutler, 1995; Gilbert & Fisher, 2006; Hope et al., 2014). This can be explained as before: The accuracy of recalling one component of a complex event is unrelated to accuracy in recalling other components of the same event.

In sum, when considering whether inconsistencies between the initial and subsequent accounts mean that the witness is unreliable, it is important to distinguish between different kinds of inconsistency (omissions, reminiscence, and contradictions). Despite a high accuracy rate for reminiscent details, they tend not to be as accurate as either consistent or forgotten items of information, however, they are more accurate than contradictions. Witnesses who make reminiscent and/or contradictory statements may be inaccurate on those *specific statements*, however, they may be accurate on the remainder of their testimony. Thus, inconsistency is diagnostic of accuracy at the level of the individual item but not at the level of the overall witness statement.

Summary and conclusions

The current chapter has examined the role of initial witness accounts within the investigative process. While the goals of initial accounts differ from the goals of subsequent interviews, the research presented clearly highlights the benefits of obtaining a good quality initial account for all stages of an investigation. First, the quality of the initial recall is important for subsequent retrieval attempts: it is not simply the act of engaging in retrieval at an early stage that preserves episodic

memory, but the act of engaging in good quality initial recall. Second, poor quality initial accounts can be detrimental as recall errors made early on - perhaps made as a consequence of a poor interview - are likely to be repeated in future retrievals. Third, the act of recalling an incomplete subset of information from memory - again, perhaps as a consequence of a poor interview - can sometimes impair one's ability to subsequently recall the remaining (initially unrecalled) items of information. The format of the initial (written or spoken) has been discussed in depth, again with the conclusion that the format is only an issue insofar as it influences the quality of the account elicited.

References

- Ambler, C. (2005). *The initial investigation of household burglary: An examination and analysis of the information gathered about burglary suspects* (Unpublished Master's thesis). University of Portsmouth.
- Anderson, M. C., Bjork, R. A., & Bjork, E. L. (1994). Remembering can cause forgetting: Retrieval dynamics in long-term memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *20*, 1063-1087.
- Anderson, J. R. (1983). A spreading activation theory of memory. *Journal of Verbal Learning and Verbal Behavior*, *22*, 261–295.
- Bergmann, M. M., Jacobs, E. J., Hoffmann, K., & Boeing, H. (2004). Agreement of self-reported medical history: Comparison of an in-person interview with a self-administered questionnaire. *European Journal of Epidemiology*, *19*, 411-416.
- Brown, C., Lloyd-Jones, T. J., & Robinson, M. (2008). Eliciting person descriptions from eyewitnesses: A survey of police perceptions of eyewitness performance and reported use of interview techniques. *The European Journal of Cognitive Psychology*, *20*, 529-560.
- Carter, E. (2011). *Analysing police interviews: Laughter, confessions and the tape*. London: Continuum.
- Carter, E. (2014). When is a lie not a lie? When it's divergent: Examining the interactional composition of lies and deceptive responses in a police interview. *International Journal of Language and the Law/Linguagem e Direito*, *1*, 1.
- Chan, J. C. K., Thomas, A. K., & Bulevich, J. B. (2009). Recalling a witnessed event increases eyewitness suggestibility: The reversed testing effect. *Psychological Science*, *20*, 66–73.
- Chang, L. & Krosnick, J. A. (2010). Comparing oral interviewing with self-administered computerized questionnaires: An experiment. *Public Opinion Quarterly*, *74*, 154-167.
- Schreiber Compo, N., Evans, J. R., Carol, R., Villalba, D., Ham, L., Garcia, T. & Rose, S. (2012). Intoxicated witnesses: Better than their reputation? *Law and Human Behavior*, *36*, 77-86.

- Conway, M. A., Cohen, G., & Stanhope, N. (1991). On the very long-term retention of knowledge acquired through formal education: Twelve years of cognitive psychology. *Journal of Experimental Psychology. General*, 120, 395-409.
- Crown Prosecution Service, Keir Starmer QC Speech, (2011). Accessed 26.12.12
www.cps.gov.uk/news/articles/domestic_violence_-_the_facts_the_issues_the_future.
- Crown Prosecution Service, Policy for Prosecuting Cases of Domestic Violence (2005). Accessed 05.18.14, <http://www.cps.gov.uk/Publications/prosecution/domestic>.
- Dando, C. J., Wilcock, R., & Milne, R. (2008). The cognitive interview: Inexperienced police officers' perceptions of their witness interviewing behaviour. *Legal and Criminological Psychology*, 13, 59-70.
- Dudgeon, P. (2012). Indigenous Australian mental health and racism. *Psychology Aotearoa*, 4, 85-91.
- Ebbinghaus, H. (1913). *Memory: A contribution to experimental psychology*. New York: Teachers College, Columbia University. (Original work published 1885).
- Fisher, R. P. (1996). Implications of output-bound measures for laboratory and field research in memory. *The Behavioral and Brain Sciences*, 19, 197.
- Fisher, R. P., & Cutler, B. L. (1995). Relation between consistency and accuracy of eyewitness testimony. In G. M. Davies, S. Lloyd-Bostock, M. McMurrin, & C. Wilson (Eds.). *Psychology and Law: Advances in Research*. Berlin: DeGruyter. (pp. 21-28).
- Fisher, R. P., & Geiselman, R. E. (1992). *Memory-enhancing techniques for investigative interviewing*. Springfield, III: Charles C. Thomas.
- Fisher R. P., Brewer, N., Mitchell, G. (2009). The relation between consistency and accuracy of eyewitness testimony: Legal versus cognitive explanations. In: R. Bull, T. Valentine, T. Williamson. *Handbook of psychology of investigative interviewing: Current developments and future directions*. John Wiley & Sons, Ltd.

- Gabbert, F. & Brown, C. (forthcoming). Interviewing for face identification. In T. Valentine, & J. P. Davis, (Eds.), *Forensic Facial Identification: Theory and Practice of Identification from Eyewitnesses, Composites and CCTV*. Chichester: Wiley-Blackwell.
- Gabbert, F., & Hope, L. (2013). Suggestibility and memory conformity. In A. M. Ridley, F. Gabbert, & D. J. La Rooy (Eds.). *Suggestibility in Legal Contexts: Psychological Research and Forensic Implications*. (pp. 63-84). London: Wiley-Blackwell.
- Gabbert, F., Hope, L., & Fisher, R. P. (2009). Protecting eyewitness evidence: Examining the efficacy of a self-administered interview tool. *Law and Human Behavior*, 33, 298–307.
- Gabbert, F., Hope, L., Fisher, R. P., & Jamieson, K. (2012). Protecting Against Susceptibility to Misinformation with a Self-Administered Interview. *Applied Cognitive Psychology*, 26, 568-75.
- Gabbert, F., Hope, L., Lindsay, K., Skowronska, E., & Sauer, J. (August, 2011). *Does an immediate recall test increase eyewitness suggestibility?* The 5th International Conference on Memory, York, U.K.
- Garry, M., Loftus, E. F., & Brown, S. W. (1994). Memory: A river runs through it. *Consciousness and Cognition*, 3, 438–451.
- Gawrylowicz, J., Memon, A., & Scoboria, A. (2013): Equipping witnesses with transferable skills: the Self-Administered Interview©, *Psychology, Crime & Law*, 20, 315-325.
- Geiselman, R. E., Fisher, R. P., Cohen, G., Holland, H., & Surtes, L. (1986). Eyewitness responses to leading and misleading questions under the cognitive interview. *Journal of Police Science & Administration*, 14, 31-39.
- Gever, M. (2005). ‘The spectacle of crime, digitized: CSI: Crime Scene Investigation and social anatomy’. *European Journal of Cultural Studies*, 8, 445-463.
- Gilbert, J. A. E. & Fisher, R. P. (2006). The effects of varied retrieval cues on reminiscence in eyewitness memory. *Applied Cognitive Psychology*, 20, 723-739.

- Goldsmith, M., Koriat, A., & Pansky, A. (2005). Strategic regulation of grain size in memory reporting over time. *Journal of Memory and Language*, 52, 505–525.
- Grabowski, J. (2007). ‘The writing superiority effect in the verbal recall of knowledge: Sources and determinants’. In M. Torrance, L. van Waes, and D. Galbraith (Eds.) *Writing and cognition: Research and application*. Amsterdam: Elsevier 165–179.
- Greater Manchester Police, (2010). *Tackling Domestic Abuse Policy and Operational Procedures*.
- Grice, P. (1975). ‘Logic and conversation’. In Cole, P., and J. L. Morgan (Eds.) *Speech Acts*. New York: Academic Press: 41–58.
- Hall, D. F., Loftus, E. F., & Tousignant, J. P. (1984). Postevent information and changes in recollection for a natural event. In G. L. Wells, & E. F. Loftus (Eds.), *Eyewitness testimony: Psychological perspectives* (pp. 124-141). Cambridge: Cambridge University Press.
- Hashtroudi, S., Johnson, M. K., Vnek, N., & Ferguson, S. A. (1994). Aging and the effects of affective and factual focus on source monitoring and recall. *Psychology and Aging*, 9, 160–170.
- Haworth, K. (2010). Police interview in the judicial process. *The Routledge Handbook of Forensic Linguistics*. New York: Routledge: 169-181.
- Hester, S. & Eglin, P. (1992). *A sociology of crime*. London: Routledge.
- Heydon, G. (2005). *The language of police interviewing*. Hampshire: Palgrave Macmillan.
- Hope, L., Gabbert, F., Fisher, R. P., & Jamieson, K. (2014). Protecting and Enhancing Eyewitness Memory: The Impact of an Initial Recall Attempt on Performance in an Investigative Interview. *Applied Cognitive Psychology*, 28, 304–313.
- Hope, L., Gabbert, F. & Fisher, R. P. (2011). From laboratory to the street: Capturing witness memory using a Self-Administered Interview. *Legal and Criminological Psychology* 16, 211-226.
- Hope, L., Gabbert, F., Heaton-Armstrong, A., & Wolchover, D. (2013). Self Administered Witness Interviews – Part IV. *Criminal Law and Justice Weekly*, 177.

- International Rehabilitation Council for Torture Victims (2009). *Shedding Light on a dark practice: Using the Istanbul Protocol to document torture*. Copenhagen, IRCT.
- Jones, E. F. & Forrest, J. D. (1992). Underreporting of abortion in surveys of U. S. Women: 1976 to 1988. *Demography*, 29, 113-126.
- Jönsson, L. & Linnell, P. (1991). Story generations: From dialogical interviews to written reports in police interrogations. *Text*, 11, 419-440.
- Kebbell, M. R., & Milne, R. (1998). Police Officers' Perceptions of Eyewitness Performance in Forensic Investigations. *The Journal of Social Psychology*, 138, 323-330.
- Kellogg, R. T. (2007). Are written and spoken recall of text equivalent? *The American Journal of Psychology*, 120, 415-428.
- Kintsch, W., Welsch, D., Schmalhofer, F., & Zimny, S. (1990). Sentence memory: A theoretical analysis. *Journal of Memory and Language*, 29, 133–159.
- Komter, M. L. (2002/3). The construction of records in Dutch police interrogations. *Information Design Journal and Document Design*, 11, 201-213.
- Koriat, A., & Goldsmith, M. (1996). Monitoring and control processes in the strategic regulation of memory accuracy. *Psychological Review*, 103, 490-517.
- Koriat, A., Levy-Sadot, R., Edry, E., & De Marcas, G. (2003). What do we know about what we cannot remember? Accessing the semantic attributes of words that cannot be recalled. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 29, 1095-1105.
- LaPaglia, J. A., Wilford, M. M., Rivard, J., Chan, J.C.K., & Fisher, R. P. (2014). Misleading suggestions can alter later memory reports even following a cognitive interview. *Applied Cognitive Psychology* 28, 1-9.
- La Rooy, D., Lamb, M. E., & Pipe, M-E. (2009). Repeated interviewing: A critical evaluation of the risks and potential benefits. In K. Kuehnle & M. Connell (Eds.) *The Evaluation of Child Sexual Abuse Allegations: A Comprehensive Guide to Assessment and Testimony* (pp. 327-361). New Jersey: Wiley.

- Leeney, D. G. & Müller-Johnson, K. (2010). Examining the link between forensic quality and customer service quality of police call centre interviews. *International Journal of Police Science and Management*, 12, 69-80.
- Leeney, D. G. & Müller-Johnson, K. (2011). Examining the forensic quality of police call-centre interviews. *Psychology, Crime & Law*, 18, 669-688.
- Levy, B. J. & Anderson, M. C. (2002). Inhibitory processes and the control of memory retrieval. *Trends in Cognitive Science*, 6, 299-305.
- Loftus, E. F. (2005). Planting misinformation in the human mind: A 30-year investigation of the malleability of memory. *Learning & Memory*, 12, 361-366.
- Loftus, E. F., Levidow, B., & Duensing, S. (1992). Who remembers best? Individual differences in memory for events that occurred in a science museum. *Applied Cognitive Psychology*, 6, 93-107.
- MacLeod, M. (2002). Retrieval-induced forgetting in eyewitness memory: Forgetting as a consequence of remembering. *Applied Cognitive Psychology*, 16, 135–149.
- Marsh, E. J., Tversky, B., & Hutson, M. (2005). How eyewitnesses talk about events: Implications for memory. *Applied Cognitive Psychology*, 19, 1–14.
- McCauley, M. R., & Fisher, R. P. (1995). Facilitating children's recall with the revised cognitive interview. *The Journal of Applied Psychology*, 80, 510–516.
- McPhee, I., Paterson, H. M., & Kemp, R. I. (2013). The Power of the Spoken Word: Can Spoken-Recall Enhance Eyewitness Evidence? *Psychiatry, Psychology and Law*, 20, 399-411.
- Memon, A., Zaragoza, M., Clifford, B. R., & Kidd, L. (2010). Inoculation or antidote? The effects of cognitive interview timing on false memory for forcibly fabricated events. *Law and Human Behavior*, 34, 105–117.
- Momenii, N. (2012). Linguistic recontextualization of police interrogation: a new approach in Forensic Linguistics. *International Journal of Criminology and Sociological Theory*, 5, 796-807.

- Norfolk G. A. (1999). Physiological illnesses and their potential for influencing testimony. *Medicine, Science, and the Law*, 39, 105-112.
- Novick, G. (2008). Is there a bias against telephone interviews in qualitative research? *Research in Nursing and Health*, 31, 391–398.
- Opdenakker, R. (2006). Advantages and disadvantages of four interview techniques in qualitative research. *Qualitative Social Research*, 7, 4. Retrieved August 12, 2014 from: www.qualitative-research.net/index.php/fqs/article/view/175/391
- Police and Criminal Evidence Act (1984) Codes of Practice D. (2013). Retrieved August 12, 2014 from: www.gov.uk/government/uploads/system/uploads/attachment_data/file/253831/pace-code-d-2011.pdf
- Palmer, F., Flowe, H. D., Takarangi, M. K., & Humphries, J. E. (2013). Intoxicated witnesses and suspects: An archival analysis of their involvement in criminal case processing. *Law and Human Behavior*, 37, 54-59.
- Pescod, L., Wilcock, R., & Milne, R. (2013). Improving eyewitness memory in police call centre interviews. *Policing*, 7, 299-306.
- Podlas, K. (2006). “The CSI effect”: Exposing the media myth. *The Fordham Intellectual Property, Media and Entertainment Law Journal*, 16, 429-465.
- Ridley, A. M., Gabbert, F., & La Rooy, D. J. (Eds.) (2013). *Suggestibility in Legal Contexts: Psychological Research and Forensic Implications*. London: Wiley-Blackwell.
- Rubin, D. C., & Wenzel, A. E. (1996). One hundred years of forgetting: A quantitative description of retention. *Psychological Review*, 103, 743–760.
- Sauerland, M., Krix, A. C., van Kan, N., Glunz, S., & Sak, A. (2014). Speaking is silver, writing is golden? The role of cognitive and social factors in written versus spoken witness accounts. *Memory & Cognition*, 42, 978-992.
- Sauerland, M. & Sporer, S. L. (2011). Written vs. Spoken Eyewitness Accounts: Does modality of testing matter? *Behavioral Sciences and the Law*, 29, 846–857.

- Schacter, D. L., Norman, K. A., & Koutstaal, W. (1998). The cognitive neuroscience of constructive memory. *Annual Review of Psychology*, *49*, 289-318.
- Shaw, J. S., Bjork, R. A., & Handal, A. (1995). Retrieval-induced forgetting in an eyewitness-memory paradigm. *Psychonomic Bulletin & Review*, *2*, 249–253.
- Shepherd, E. & Griffiths, A. (2013). *Investigative Interviewing: The Conversation Management Approach*. Oxford: Oxford University Press.
- Shuy, R. W. (2003). In-person versus telephone interviewing. In: J. A. Holstein and J. F. Gubrium (Eds.) *Inside Interviewing: New Lenses, New Concerns*. Thousand Oaks: Sage: 175–193.
- Sporer, S. L. (1996). Psychological aspects of person descriptions. In *Psychological issues in eyewitness identification*, 53–86. S. L. Sporer, R. S. Malpass, and G. Koehnken, eds. New Jersey: Lawrence Erlbaum Associates.
- Stokoe, E. & Edwards, D. (2008). "Did you have permission to smash your neighbour's door?" Silly questions and their answers in police–suspect interrogations. *Discourse Studies*, *10*, 89–111.
- Suengas, A. G., & Johnson, M. K. (1988). Qualitative effects of rehearsal on memories for perceived and imagined complex events. *Journal of Experimental Psychology. General*, *117*, 377-389.
- Tousignant, J. P., Hall, D., & Loftus, E. F. (1986). Discrepancy detection and vulnerability to misleading post-event information. *Memory & Cognition*, *14*, 329 –338.
- Tuckey, M. R., & Brewer, N. (2003). The influence of schemas, stimulus ambiguity, and interview schedule on eyewitness memory over time. *Journal of Experimental Psychology. Applied*, *9*, 101–118.
- Tulving, E. (1983). *Elements of episodic memory*. New York: Oxford University Press.
- Tversky, B. & Marsh, E. J. (2000). Biased retellings of events yield biased memories. *Applied Cognitive Psychology*, *40*, 1-38.

- van Koppen, P. J., & Lochun, S. K. (1997). Portraying perpetrators: the validity of offender descriptions by witnesses. *Law & Human Behavior, 21*, 661-685.
- van Oorsouw, K., & Merckelbach, H. (2012). The effect of alcohol on crime-related amnesia: A field study. *Applied Cognitive Psychology, 26*, 82 - 90.
- Wagstaff, G. F., Wheatcroft, J., Cole, J. C., Brunas-Wagstaff, J., Blackmore, V., & Pilkington, A. (2008). Some cognitive and neuropsychological aspects of social inhibition and facilitation. *European Journal of Cognitive Psychology, 20*, 828–846.
- Wang, E., Paterson, H., & Kemp, R. (2014). The effects of immediate recall on eyewitness accuracy and susceptibility to misinformation. *Psychology, Crime and Law, 20*, 619-634.
- Watson, D. R. (1990). 'Some features of the elicitation of confessions in murder interrogations'. In: G. Psathas (ed.) *Interaction competence. International Institute for Ethnomethodology and Conversation Analysis*. Washington, DC: University Press of America: 263–295.
- Yuille, J. C., Tollestrup, P., Porter, S., Marxsen, D., & Hervé, H. (1998). Some effects of marijuana on eyewitness memory. *International Journal of Law and Psychiatry, 20*, 1-23.