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Scientists Develop New Tool To 'Freeze' Crime Scene Memories

ScienceDaily (Apr. 29, 2007) — University of Portsmouth scientists have developed a powerful new tool that 'freezes' the memory of crime scenes in the minds of witnesses.

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The tool - a self-administered interview applied by witnesses at crime scenes - combats natural memory decay by using the latest research in cognitive psychology techniques. It 'freezes' images and details of crime scenes and perpetrators in the minds of witnesses, particularly small and seemingly insignificant details that provide major leads for detectives that turn out to be crucial in solving cases.

Tests at simulated crimes scenes were remarkable with witnesses using the tool recalling forensically relevant information 42 percent more accurate than other witnesses who were simply asked to 'report as much as you can remember'. The tests also revealed the witnesses

using the self-administered interview (SAI) were 44 percent more correct with details about people - therefore, possible suspects - who had been involved in the event.

In another test there was a delay of seven days between witnessing the event and providing a full account. Half the participants completed self-administered interviews after witnessing the event while the other participants simply gave their name and contact details - as normally happens to a large number of witnesses at crime incidents. Scientists tested the group after seven days and found participants who had completed the SAI were still reporting almost 30 per cent more correct details than other witnesses.

The SAI protocol tool has been developed by Dr Lorraine Hope from the University of Portsmouth and collaborators Dr Fiona Gabbert (University of Abertay) and Professor Ronald Fisher (Florida International University) with funding from the British Academy. The scientists worked with police forces in England and Scotland to develop the witness 'recall and report' tool to record witness memory at the earliest possible opportunity - at the scene of the incident.

Dr Hope said the completeness and accuracy of eyewitness evidence decreases as the delay between witnessing an incident and recalling it increases. In other words, the longer the gap between witnessing the event and fully recalling what was seen under formal interview conditions, the less accurate and less complete a witness report is likely to be.

"Decades of research in cognitive psychology demonstrate that memory decay, or forgetting, occurs rapidly at first. In a witnessing situation, this 'forgetting' will occur naturally and within hours of the incident. As the delay between witnessing and formal interview increases to days, memory decay will level off. However, by that time, many useful and forensically relevant details or clues may be lost forever," she said.

Dr Hope said the SAI tool could play a significant role for law enforcement as the benefits were obvious - witnesses have the opportunity to record their memories before any potentially crucial information is forgotten.



Dr. Lorraine Hope has developed a method to help witnesses freeze images and details of crimes in their minds to aid in criminal investigations. (Credit: Russell Sach)

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"The forensic implications of these findings for current police practice are considerable. At present witnesses are likely to engage in a very brief initial interview prior to giving a full statement at some later date. This very brief initial interview may actually have a detrimental effect on the ability of a witness to fully recall the incident at a later occasion. In other words, only the memory for the brief outline is strengthened - not the memory for the details, which can sometimes become harder to recall as a result," Dr Hope said.

"Research has proven, for instance, that recalling an event before any substantial forgetting or memory loss has taken place means that the way the event is represented in memory is strengthened, making it easier to recall in future. In this way, an early recall attempt serves to protect or 'freeze' the memory against the course of natural forgetting. There is also some research to suggest that recalling only partial or brief outline information about an event or incident may in fact have a negative impact on ability to recall the incident more fully at a later stage."

Dr Hope said using the techniques of the cognitive interview, and providing instructions to think carefully about the witnessing environment and report everything no matter how insignificant without resorting to guesswork, the SAI supports the witness in both the recall and reporting of as much information as possible before that information has been lost.

Further details

Participants in the studies were community-based participants of all ages and backgrounds.

In the first test of the SAI, mock witnesses (comprising a sample of community volunteers of all ages and background) viewed a simulated event and were required to report, in writing, as much as they could about what they had seen. Witnesses in the sample who were required to complete the SAI tool reported statistically significantly more correct details than those participants who were simply asked to report what they had seen. Importantly, witnesses who completed the SAI produced the same amount of correct (and incorrect) information as participants who were given a full cognitive interview by a trained interviewer shortly after the event. Interestingly, the benefits of witnesses recording their recall of the event using the SAI were especially evident in their enhanced recall of person-related details. In other words, witnesses using the tool to record their memory produced more detailed and correct information pertaining to people they had witnessed in the incident.

The reporting tool, known as a Self-Administered Interview (SAI), draws on the core principles of the cognitive interview which has been shown to facilitate witness recall and is a recommended interviewing technique. Since its original conception by Fisher and Geiselman, the cognitive interview has been closely scrutinised in both laboratory experiments and in police practice and the technique has been improved by several revisions. Overall, research and experience suggests that using a cognitive approach to interviewing witnesses increases the quality, accuracy and completeness of the information obtained. Furthermore, the use of cognitive techniques do not impact on subsequent witness credibility in court.

The SAI incorporates the 'context reinstatement' and 'report everything' elements of cognitive interview protocol. Early stage development of the SAI focused on creating a simple set of written instructions and questions that could easily be understood by witnesses. All instructions were carefully tested to ensure potential witnesses understand exactly what is required of them when provided with the tool.

The next stage for the researchers is to continue with further testing of the tool in different settings and circumstances. Developing a more high tech version of the SAI is also on the researchers' agenda. The current format - requiring witnesses to complete the SAI form by hand - may be a limiting factor for some witnesses with literacy difficulties. Another issue under consideration is how the evidentiary status of information recorded using an SAI form might be established. Depending on the nature any implementation of the SAI, it will be important to maximise the reliability and credibility of the witness reports recorded using the SAI within the legal system. As it stands, the SAI will maximise the control police

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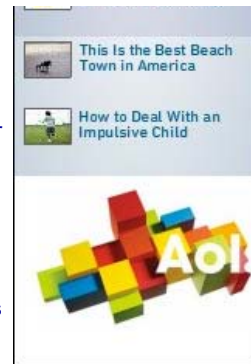
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have over the initial brief interview and enable the best information possible to be obtained as soon as possible at the scene or shortly afterwards - witnesses are also more likely to be sure of their report so soon after the event rather than after a delay.

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