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Virtual avatar-to-avatar interviews may improve eyewitness testimony

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Immersive virtual environments—where officials interview eyewitnesses using digital representations, or avatars, instead of interacting in person—may increase the accuracy and amount of recalled information, shows research in *Frontiers in Psychology*. In this first-of-its-kind study, eyewitnesses of a mock car theft provided as much as 60% more information when interviewed in an avatar-to-avatar context compared to face-to-face interviews. Study participants also found it easier to talk to the avatar and were more likely to admit when they didn't know the answer to a question.

"Witnesses can become distracted from the task of remembering during an interview because they are attending to the social behavior of the interviewer, such as facial expressions. Such behaviors can negatively affect witness memory performance," says Professor Coral Dando of the University of Westminster in London. "My research explores interviewing in non-traditional contexts to support complex cognition such as long-term memory—reducing the task demands by managing the environment to allow people to concentrate on one task at a time."

Providing eyewitness testimony to the police can be a stressful and intimidating experience. Many factors—such as the unfamiliar setting, the police officer, or the desire to "perform" well—can distract a witness and decrease the accuracy of their memory. Building on decades of research from the field, Dando and her colleague, Donna Taylor, designed an experiment to minimize the impact of these factors by using an immersive virtual environment.

"Before completing my Ph.D., I was a London police officer and, during my 12 year police career, I developed an interest in the impact of the interview context on witness memory performance," says Dando. "It is clear that, worldwide, people do not necessarily communicate face-to-face, rather they often prefer to communicate in synthetic environments."

The study recruited 38 young adults who were initially told that they would be testing a new headset. Volunteers then watched a video of a mock car theft and were asked to come back 48 hours later to provide information about what they had seen. Each participant was then interviewed either in a face-to-face setting or an avatar-to-avatar virtual environment, which was designed to be as similar as possible to the actual room.

The subsequent interviews contained a first phase of free recall and a second phase of structured questioning by the interviewer. During the free recall phase, participants did equally well between the two settings. However, during the questioning phase, the avatar-to-avatar interviewees responded with almost 60% additional, correct information, with significantly fewer errors than the face-to-face participants.

While it is too early to say how well these preliminary laboratory results will translate to more demanding and diverse real-life scenarios, the researchers plan to begin fieldwork to more closely mimic real life in their future research.

"Technological advances offer real possibilities for significant innovation in real world practice. Virtual environments allow interviews to be conducted quickly and remotely—and, our research suggests, more effectively," says Dando. "It would be nice if our research program starts a conversation about the real possibilities for remote, yet effective, witness interviewing."

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More information: Donna A. Taylor et al, Eyewitness Memory in Face-to-Face and Immersive Avatar-to-Avatar Contexts, *Frontiers in Psychology* (2018). DOI: 10.3389/fpsyg.2018.00507

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