



Virtual Criminals

Sometimes Jeremy Bailenson, the director of Stanford's Virtual Human Interaction Lab, turns his workplace into a crime scene. In doing so, he is attempting to improve the accuracy of notoriously unreliable eyewitnesses with the help of immersive virtual reality (VR).



Bailenson's experiments begin by having his subjects experience a staged crime committed by a confederate fellow researcher. After revealing the ruse and averting potential 911 calls, the investigators provide each "witness" with a VR helmet for a lineup. Contrary to popular belief, over 95 percent of police lineups consist of faces in a mug shot book, not live people behind a one-way mirror. Inside the VR helmet two photographs are used to generate 3-dimensional, interactive mug books of the alleged perpetrator along with several "foils" (individuals who are not suspects).

VR images could potentially have many advantages over a photographic lineup. The VR image generated during the lineup can more realistically mimic what the witness saw during the actual crime by matching his or her viewing angle and distance to the perpetrator. It can also place a suspect in a variety of backgrounds, from the traditional height chart to a recreation of the setting where the "crime" was committed. VR could test the dependability of a witness' identification by generating foils morphed by combining the suspect's face with other faces. In addition, during the VR lineup, a witness' physical movements are recorded, mapped and analyzed as the witness navigates the virtual space. This information could elucidate a set of nonverbal cues that support or undermine a witness' reliability, which may be crucial to avoid wrongful convictions.

Bailenson is just beginning to delve into many aspects of this interdisciplinary research. The OTL Research Incentive Grant helped enable the development of the technology needed to simulate the crime scenes in real time. The work will continue through a grant Bailenson was recently awarded from the

National Science Foundation.

Jeremy Bailenson
Assistant Professor of Communication
"Digitally Mediated Person Recognition" (2004)