Bravemind

Virtual Reality Exposure Therapy

2005-Present

Bravemind, ICT's virtual reality (VR) exposure therapy system, is aimed at providing relief from post-traumatic stress (PTS). Currently distributed to over 50 sites, including VA hospitals, military bases and university centers, the Bravemind system has been shown to produce a meaningful reduction in PTS symptoms. Additional randomized controlled studies are ongoing.

Exposure therapy, in which a patient – guided by a trained therapist – confronts and processes their trauma memories through a retelling of the experience, has been endorsed as an "evidence-based" treatment for PTS. ICT researchers added to this therapy by leveraging virtual reality. Now rather than relying exclusively on imagining a particular scenario, a patient can experience it again in a virtual world under very safe and controlled conditions. Young military personnel, having grown up with digital gaming technology, may actually be more attracted to and comfortable with a VR treatment approach as an alternative to traditional "talk therapy".

The current application consist of a series of virtual scenarios specifically designed to represent relevant contexts for VR exposure therapy, including Afghan and Iraqi city and desert road environments, as well as scenarios relevant to combat medics. Scenarios addressing military sexual trauma are also being developed. In addition to the visual stimuli presented in the VR head-mounted display, directional 3D audio, vibrations and smells can be delivered into the simulation. Specially trained clinicians control the stimulus presentation via a separate "Wizard of Oz" interface, and are in full audio contact with the patient.

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The BRAVEMIND VR Exposure Therapy software was created at the USC Institute for Creative Technologies and is provided free of charge for its clinical and research use upon documenting clinician/researcher expertise in the area of Prolonged Exposure Therapy for the treatment of combat-related PTSD. It is the responsibility of the requesting agency to acquire the necessary equipment to run the system, but we can provide a fully detailed equipment directory and instructions for set up with supporting links.

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At the University of Southern California Institute for Creative Technologies leaders in artificial intelligence, graphics, virtual reality and narrative advance low-cost immersive techniques and technologies to solve problems facing service members, students and society.

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