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## Bravemind

Bravemind is a clinical, interactive, virtual reality (VR) based exposure therapy tool being used to assess and treat post traumatic stress disorder (PTSD). The assessment and treatment of PTSD is a major concern to the military because stressful experiences in today's war-fighting environments have resulted in a significant number of soldiers returning from deployment being at risk for developing PTSD.



The effectiveness of using graduated exposure therapy to treat PTSD has been well documented. Treatment typically involves the gradual, repeated 'reliving' of the traumatic event in the imagination under a clinician's care. Through this the patient can begin to process the emotions associated with the trauma and de-condition the learning cycle via a habituation/extinction process.

One of the challenges associated with this treatment is the reliance on patients to be able to effectively imagine their traumatic experiences. Many patients, however, are unwilling or unable to do this. In fact, this very tendency to avoid the cues and reminders of the trauma is one of the cardinal symptoms of PTSD.

Bravemind was developed to address this challenge by offering a means by which to overcome the natural avoidance tendency of trauma sufferers. The potential of using VR for the treatment of PTSD is supported by previous reports in which patients with PTSD, who were unresponsive to previous imaginal Prolonged Exposure (PE) therapy treatments, went on to respond successfully to Virtual Reality Exposure Therapy (VRET).

Bravemind allows clinicians to gradually immerse patients into virtual environments representative of their traumatic experiences in a controlled, stepwise fashion by providing the capability to control multi-sensory emotional stimuli and monitor the intensity of the patients' stress responses via advanced brain imaging and psychophysiological assessment techniques.

The use of VR technology offers unique capabilities for the treatment of PTSD not only because it allows interactive, multisensory, immersive environments to be readily created that can be tailored to a patient's needs, but also because it provides the ability for clinicians to control, document, and measure stimuli and patient responses, offering clinical assessment, treatment and research options that are not available via traditional methods. As such, Bravemind not only provides a tool for clinicians in the treatment of PTSD patients but also allows them to measure, document, and learn from the results in order to better understand the brain and biological factors that serve to inform the prevention, assessment and treatment of PTSD.

The BRAVEMIND VR Exposure Therapy software was created at the University of Southern California 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. For further information, please contact project PI, Dr. Skip Rizzo at: [rizzo@ict.usc.edu](mailto:rizzo@ict.usc.edu)  
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