

Post-Traumatic Stress Disorder

Treatment and Assessment

War is perhaps one of the most challenging situations that a human being can experience. The physical, emotional, cognitive and psychological demands of a combat environment place enormous stress on even the best-prepared military personnel. Numerous reports indicate that a large percentage of soldiers and veterans suffer from some form of Post-Traumatic Stress (PTS).

The *Virtual Iraq/Afghanistan* project is aimed at providing relief from this clinical condition.

Currently in use at close to 50 sites, including VA hospitals, military bases and university centers, ICT's *Virtual Iraq/Afghanistan* exposure therapy approach has been shown to produce a meaningful reduction in PTS symptoms. Additional randomized controlled studies are ongoing. Organizations using the system to treat wounded warriors and/or train clinicians include the USC School of Social Work, Walter Reed Army Medical Center, the San Diego Naval Medical Center and Wright Patterson Air Force Base.

Exposure therapy, in which a patient – guided by a trained therapist – confronts their trauma memories through a retelling of the experience, is now endorsed as an “evidence-based” treatment for PTS.

ICT researchers added to this therapy by leveraging virtual art assets that were originally built for the commercially successful X-Box game and combat tactical simulation scenario, *Full Spectrum Warrior*. The current applications consist of a series of virtual scenarios specifically designed to represent relevant contexts for VR exposure therapy, including Middle-Eastern themed city and desert road environments. 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.

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. In addition, the current generation of young military personnel, having grown up with digital gaming technology, may actually be more attracted to and comfortable with participation in a VR treatment approach as an alternative to traditional “talk therapy”.

VR exposure therapy approaches are not intended to provide automated treatment in a “self-help” format. The therapy requires well-trained clinical care providers that understand the unique challenges that they may face with service members and veterans suffering from the wounds of war. Stimulus presentation is controlled by the clinician via a separate “wizard of oz” interface, with the clinician in full audio contact with the patient.

ICT researchers are also adapting the system as a tool for stress resilience training and PTS assessment. Future work will also involve advanced brain imaging and psychophysiological assessment. This work has been funded by ONR and TATRC.

Collaborators

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Facts and Figures

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