Identifying Opportunities for Improving the PTSD Care with Treatment-Supportive Technologies

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1. Background

Post-Traumatic Stress Disorder (PTSD) is an anxiety based psychiatric condition that is experienced by individuals after exposure to an event that concerns a life threat along with feelings of fear, helplessness and horror.

> 70% of adults in the U.S. have experienced some type of traumatic event at least once in their lives. This equates to approximately 223.4 million people

> > An estimated 8% of Americans - 24.4 million people - have PTSD at any given time. That is equal to the total population of Texas.

· Many veterans from recent wars are suffering from PTSD. Around 14 ~ 16% of deployed U.S. military personnel may be associated with symptoms of PTSD (Hoge et al., 2004; Tanielian & Jaycox, 2008).

Only about 40% of returning veterans from Iraq are interested in receiving help for PTSD, depression or general anxiety disorder three months post deployment (Brown et al., 2011).

Strong risk factors for PTSD amongst veterans include perceived threat on life, combat-related injury, peritraumatic distress, lack of social support, negative homecoming experiences (reintegration into society), exposure to additional life stressors (Cabrera et al., 2007)

<u>Critical Need</u>: To clearly identify opportunities to support the current pathways for PTSD care with technological interventions that meets the needs of veterans with PTSD

2. Research Aims

Aim 1: Identify opportunities for improvement in the current pathways for PTSD care

Aim 2: Derive functional requirements to inform the design of novel PTSD treatmentsupportive technologies

• Data collection: Ideas for novel PTSD supportive technologies have been generated and validated through iterative semi-structured interviews with subject-matter experts (SMEs) – i.e., 21 veterans diagnosed with PTSD. 19 out of the total 21 SMEs were recruited among the participating veterans in Project Hero Challenge at Washington D.C. (May 2017), Great Lakes (August 2017), and California (October 2017).

greeme Require 80% 90%

Data analysis: Interviews were transcribed, coded, and analyzed taking a grounded theory-based qualitative data analysis approach – i.e., General Thematic Approach (Bryman, 2015). Qualitative data of interview transcripts were systematically categorized by three steps of coding: initial coding, focused coding, and modeling relationships. During the coding process, each transcript was coded by two coders to avoid bias. An intercoder reliability analysis was conducted to assess the level of agreement.

sessions.

Motivation (4)

Familial Relationship (4)

Physical Injury/ Pain (2)

Continuous Objective Detection (4)

Voice Command and Guidance (2

3. Methods & Work In Progress

3.1 Methods for data collection and analysis

t % d	The 1 st coding system	The 2 nd coding system	Improvement % in codes	Step 1. Initial Coding : Deductive codes
	8.11 %	37.09 %	21.87%	
	5.41 %	32.63 %	16.58%	



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Focused Coding Inductive codes



Step 3. Relationships



5. Implications

• The findings are expected to provide a user**centered perspective** to the process of designing novel PTSD treatment-supportive technologies and enable them to be better integrated with the current care system.

6. Future Work

• Data collection and analysis are in progress to validate and refine the understanding on improvement opportunities and technological