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Virtual realities: The use of violent video games in U.S. military recruitment and treatment of mental disability caused by war

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Abstract

This article critically analyzes the U.S. military's contradictory use of violent video gaming technologies for recruiting young gamers to the military, training soldiers for combat, and clinically treating soldiers for posttraumatic stress disorder (PTSD) caused by military service. Using a Disability Studies lens, I discuss the commercial video game Full Spectrum Leader/Warrior*, the U.S. Army's free video game* America's Army*, and the virtual reality exposure therapy application* Virtual Iraq*. I also discuss missions and omissions from the literature on these gaming technologies, which bolsters the underlying ableism of military culture that inhibits soldiers from recovering from PTSD.*

Much of the recent U.S. public interest in disability pertains to the disabling of society's most able-bodyminded [1] people in action, including police and firefighters, professional football players, and, especially, military veterans. Lurking in the shadows of yesteryear's heroic Wounded Warriors, many of today's soldiers become disabled through the onset of posttraumatic stress disorder (PTSD) and its myriad symptoms, ranging from social disconnection to reckless behavior (American Psychiatric Association (APA), 2013a). Brown University's "Costs of War"study calculates nearly one million disability claims for veterans of recent wars, with 30% of all soldiers being diagnosed with PTSD as of January 2015 (http://costsofwar.org/). Although PTSD is a common response to trauma that is

typically self-resolving, chronic PTSD involves perpetual symptoms (Rothbaum, Rizzo, & Difede, 2010) of "significant distress or impairment in the individual's social interactions, capacity to work or other important areas of functioning" (APA, 2013b, p. 1). Some military leaders have argued that "the word 'disorder' makes soldiers […] reluctant to ask for help," and that renaming the condition "posttraumatic stress injury" would be "more in line with the language of troops and would reduce stigma. But others believe it is the military environment that needs to change" (APA, 2013b, p. 2) in regard to its ableist values and practices. This debate characterizes how PTSD, and mental disability [2] in general, is misunderstood and under-researched within everyday cultural spaces as well as critical spaces including critical Disability Studies and Visual Culture Studies.

As an example of representational discourses on mental disability, discourse of PTSD in the military is profoundly invested in the visual culture of war, particularly war video games. War video games do not cause PTSD, but they do inculcate, enact, and reinforce the masculine virtues that precipitate voluntary enlistment in the military and inhibit treatment for PTSD caused by military service. Ironically, war video games are the foundation for *virtual reality exposure therapy* (VRT), arguably the most effective therapy for treating PTSD in veterans (Rizzo et al., 2006).

In addition to synthesizing research pertaining to different aspects of the topic, I critically examine the U.S. military's contradictory use of war video games and other visual culture to promote violence that causes PTSD and, simultaneously, to clinically treat PTSD. I also examine the *o/missions* within literature on VRT, which work in tandem to conceal the disabling effects of combat violence and the consequences of the underlying masculine, ableist logic of military culture on mental health. I argue that this ableist logic inhibits treatment of mental disability and consequently perpetuates the disabling symptoms of PTSD in veterans.

Violent Video Games and Training Tools in the U.S. Army

Gaming and militia are historically inseparable. Following classic war games including *wéiqí* (go) and chess, the modern incarnation arose in the nineteenth century game Kriegsspiel, a mathematical combat simulation that the Prussian army used for military training (Allen, 2011). Such war gaming continued into the twentieth century, with games that were utilized and refined by military strategists and trainers as well as by the general public for entertainment (Allen). War gaming expanded into a commercial genre in the mid-twentieth century and transitioned from board games to video games by the 1980s (Allen) because of technological advances in the military, including flight simulation (Andersen & Kurti, 2009) and the evolution of networking projects such as SIMNET (Allen), which enabled real-time combat simulations among remote units. The U.S. military's first foray into modifying retail video games was the first-person shooter *Doom*, which was modified as *Marine Doom* in 1997 for teaching decision-making and military thinking (Andersen & Kurti).

ICT And The Development Of *Full Spectrum*

Command/Leader/Warrior

As commercial, military, and academic digital gaming projects became formalized in the 1990s, institutional arrangements among them were established (Allen, 2011). A notable example is the University of Southern California's Institute for Creative Technologies (ICT), which was founded with a $45 million Defense Department grant (Stahl, 2006) to "explore a powerful question: What would happen if leading technologists in artificial intelligence, graphics, and immersion joined forces with the creative talents of Hollywood and the game industry?" (http://ict.usc.edu/about/). A powerful answer was the development of the first military training application for a commercial gaming console (Korris, 2004). The application, *Full Spectrum Command*, was then modified into the award winning commercial video game for the masses, *Full Spectrum Warrior* (FSW), which included the built-in variation, *Full Spectrum Leader*, a customizable cognitive tactical trainer used by the U.S. Army (Army). According to project leader Rizzo and colleagues (Rizzo et al., 2006), "These tools were developed through collaboration between ICT, entertainment software companies, the U.S. Army Training and Doctrine Command (TRADOC), and the Research, Development, and Engineering Command, Simulation Technology Center," along with design contributions from the Army's Infantry School (para. 5). FSW is a real-time tactics game in which one or two players command squads consisting of two fire teams that cover each other and kill Al-Qaeda and Taliban terrorists while advancing through the playing field in fictitious Zafarra, Zekistan (Figure 1). Following the unprecedented financial success of converting a government funded military training application into FSW (Andersen & Kurti, 2009), ICT has further developed as a virtual reality therapy interface for treating PTSD in returning veterans, which I discuss later.

***Figure 1*. Pictured above is a screenshot of *Full Spectrum Warrior*: the player's Alpha team (squad) shoots at enemies while the Bravo team moves, in a desolate urban environment.**

U.S. Army's *America's Army Game Project*

In the same year as the Army and others established ICT, the Army allocated $12 million (USD) for designing *America's Army Game Project* (*America's Army*), a free, public video game to be used as a marketing tool with particular emphases on recruiting teenagers and training enlistees before boot camp (Allen, 2011). The project has been one aspect of the Army's "Transformation," a long-term transition of organizational, technological, and conceptual changes (Allen) in how the Army functions as well as its public image as a brand. The project was conceived by director Colonel Wardynski, who hypothesized that a free, high-quality game could effectively reach young, tech-savvy recruits (Kennedy, 2002) and that it would be economically viable if it were to yield merely 300-400 recruits, given the high cost of traditionally recruiting college-bound teens. The first version, *America's Army: Recon*, was released online July 4, 2002, with 1.5 million free downloads in the first month, tens of millions of subsequent downloads (Schultzke, 2013), and billions of hours of play time (Andersen & Kurti), making it the most successful game launch in history (Andersen & Kurti, 2009). Despite Wardynski's initial denial that *America's Army* was a recruiting tool (Stahl, 2006), military testimony to Congress indicates that it has been more effective for recruiting than any other method of contact (Singer, 2009).

America's Army is a multiperson, tactical shooter game, a subgenre of the first-person shooter genre, in which players control a protagonist who neutralizes the opposition through relentless gunfire. In all versions of the game, players must develop basic skills during individual training rounds. Drill sergeant avatars deliver scripts that integrate Army values and rhetoric, an integral component of the project, along with instructions, praise, and reprimands on the tasks. Compared to typical commercial games, *America's Army* is much easier at the beginning, encouraging players who would normally give up to continue playing, implying that actual Basic Training may be easy (Lugo, 2006). After passing the training rounds, players graduate to multiplayer, online gameplay, in which they team up with others to form squads of 2-16 players, which play against an opposing squad. The software uses a "swapping paradigm" (Allen, 2011, p. 48) protocol, which causes players on both teams to see their own team as Americans and the other as the enemy, therefore making it impossible to play against the Army.

Nieborg (2004) identified four functional dimensions of *America's Army*: "a recruiting tool [or advergame], a propagame, an edugame, and a test bed and tool for the US Army" (para. 8). As an *advergame*, it is much cheaper than other forms of advertising, while successfully promoting the Army as a brand and directing traffic to its website. As a *propagame*, *America's Army* instills Army values, not just to potential recruits, but to the entire world, which the game FAQ claims can show the whole world "how great the US Army is." As an *edugame*, it has become a tool for training soldiers and educating the public about the Army, its values, and certain militaristic procedures. Nieborg also notes how unrealistic the game is due to its lack of dismemberment, in which players peacefully collapse without wounds, blood, or shrieks of agony (Figure 2).

***Figure 2*. Pictured above is a scene from *America's Army 3* gameplay, depicting a close-up of a U.S. Army soldier laying on the ground, denoting critical injury; however, no blood, wounds, or other evidence of injury is visible.**

The unrealistic violence of *America's Army* is particularly controversial. Schulzke (2013) argued that *America's Army*'s clean combat and overt propaganda reduce its potential harmfulness and teach positive combat ethics by punishing players for killing non-enemies. Developers assert that *America's Army* does not promote violence as entertainment, which is bolstered by requirements for its rating of "T" by the Entertainment Software Rating Board (Stahl, 2006). However, *America's Army* is violent, and there is an abundance of evidence that violent video games desensitize people to violence (Engelhardt, Bartholow, Kerr, & Bushman, 2011; Funk, Buchman, Jenks, & Bechtoldt, 2003; Hasan, Bègue, & Bushman, 2012, 2013) and promote antisocial and aggressive behavior (Adachi & Willoughby, 2011; Anderson & Bushman, 2001; Anderson & Murphy, 2003; Bushman & Anderson, 2002; DeListi, Vaughn, Gentile, Anderson, & Shook, 2012). This is amplified when players experience neuroticism, psychoticism, and trait aggression (Markey & Markey, 2010) or when they identify with violent characters (Konjin, Bijvank, & Bushman, 2007). Neurological research also shows that violent video games alter brain patterns such that players read more violence into others motives in social narratives, which bolsters aggression (Engelhardt et al.). Andersen and Kurti (2009) also found that young players of *America's Army* reported positive feelings toward killing opponents, with only one of 62 teenagers reporting feeling bad about killing.

Stahl (2006) offered a compelling rationale for this tame virtual environment: it emulates the spectacle of televised war coverage that young American players grew up with, in which "reporters exercised strict self-censorship by not airing or printing images of soldier or civilian casualties" (p. 124). Stahl suggested that *America's Army* represents the Army's *lifestyle marketing,* "the creation of

an immersive cultural universe that surrounds a brand name" (p. 125). Indeed, the Army's Transformation (Allen, 2011) has involved extensive branding—a strategy that didn't exist prior to the new millennium (van der Graaf & Nieborg, 2003)—to promote itself within visual culture. Such notable features include the Universal Camouflage Pattern for combat uniforms on all soldiers, the Soldier's Creed, which is featured in *America's Army*, and the formal establishment of the Army Marketing and Research Group (AMRG) in 2011, which implemented a standardized visual identity that includes the star logo and logotypes, "ARMY STRONG" taglines, color palette, typography, graphics template for web and print publications, and photography (AMRG Public Affairs, 2012). The AMRG's self-authored press release explained that the design system communicates "the enduring storylines of the Army" (para. 13) without media filters:

> Today's Soldiers are strong, decisive, technologically savvy and morally and ethically steadfast. Soldiers get things done—no matter where or how difficult, Soldiers always accomplish the mission. Not everyone can be a Soldier—they are unique, selfless, patriotic, physically fit and driven by duty, honor, country and the desire to a part of something greater than themselves—but all Americans can be proud of the American Soldier. (para. 2)

This and other AMRG texts are ableist in their correlation of hyper-ability and imperviousness to disability through will and benevolence.

The Army has also produced a variety of merchandise, including console versions of the game for multiple platforms, a coin-operated arcade game, an application version of the game for mobile devices, and *America's Army* toy action figures (Allen, 2011). Enlistees have been featured as "real heroes" and "true soldiers" on the website, with family pictures and stories glorifying combat achievements (Allen). Lastly, the success of the game is largely due to a robust infrastructure for "far-flung individuals, alone at their computers, to become a tight-knit brotherhood that circled the globe" (Zyda, Mayberry, McCree, & Davis, 2005, p. 588). Furthermore, the defunct "downloads" webpage expanded this network by providing links to social networking sites, widgets and mobile apps, ringtones, screensavers and wallpaper, RSS feeds, and music by Army bands, along with several instant play and downloadable games, including *Army Target Practice*, *Army Image Puzzle*, *Special Teams Challenge*, *Basic Rifle Marksmanship*, *Patriot Missile System Simulation*, and *Blackhawk Challenge*—as the website proclaimed, are plenty of "things to do with your free time, whether you're in the Army or hope to be one day."

In sum, *America's Army* epitomizes military propaganda that employs popular visual culture. Beyond violent video games and the adaptation of such games for combat simulation, *America's Army* is used to recruit teens directly, and, as part of a larger visual culture military branding campaign, to promote an ableist military culture that contrasts the disabling effects of military service. The gaming environment desensitizes players to violence and portrays warfare as

altruistic and free of disabling consequences, suggesting that military service increases one's ability and worth. As Susca (2012) remarked,

> The Army, through a sophisticated network of games and social networking sites that form the basis of the *America's Army* franchise, is able to cultivate in thousands of young people the idea that a military career is one that fits their ideals and future goals based on their experience with a video game that fails to show what happens when a soldier is wounded. (p. 85)

Because *America's Army* successfully recruits adolescents who likely would never consider joining the military otherwise (Davis, as cited in Susca, p. 64), and because war results in disability, including chronic PTSD, *America's Army* indirectly leads to the eventual impairment of some players. Furthermore, the ableist values of the game, particularly those promoting mental and physical strength as demonstrations of will and benevolence, exacerbate the disabling sociocultural effects of impairment, which I detail in the following section. While *America's Army* has received criticism as a violent video game and as propaganda, its role in the long-term effects on the military personnel it inspires to enlist, which includes disablement, has not been addressed previously.

Disabling Effects of War and the U.S. Army's (Virtual) Response

War is not a game; it results in death by trauma, disease, and suicide, as well as catastrophic social, economic, and collateral damage, including widespread disability. Brown University's Watson Institute for International Studies' aforementioned "Costs of War" project estimates the comprehensive economic and human costs of U.S. wars in Afghanistan, Pakistan, and Iraq, and publishes findings on its "Costs of War" Web site, http://costsofwar.org/. As of November, 2014 [3], key findings included total cost of $4.4 trillion; over 350,000 direct deaths; and 875,000 approved disability claims, with "signature wounds" of PTSD, traumatic brain injury, amputations, spinal cord injuries, and with many respiratory, neurological, and cardiovascular diseases from toxic dust, along with significant indirect consequences of disability to veteran families, including domestic violence and homicide, suicide, alcohol and drug dependency, homelessness, and clinical stress among children (http://costsofwar.org/). The official statistics on military PTSD are probably inadequate, given APA's (2013a) estimates that a third to more than 50% of people exposed to "military combat and captivity" and other major trauma meet diagnostic criteria for PTSD. Formerly classified as an anxiety disorder, the recent fifth revision of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5, American Psychiatric Association, 2013a) classifies PTSD in a new category of trauma- and stress- related disorders, with four diagnostic clusters: re-experiencing, avoidance, negative cognitions and mood, and arousal. Symptoms include horrific or missing memories of the event, vivid dreams, flashbacks, constant reminders, distressing feelings, exaggerated blame and self-blame, social disconnect, decreased interest in activities and social interaction, reckless and aggressive behavior, hyper-vigilance, and sleep disturbances. PTSD

is a common human response to trauma that often subsides with time, but in chronic cases symptoms remain constant, neither getting better nor worse (Rothbaum, Rizzo, & Difede, 2010). Thus, the clinically disabling effect, or impairment, of PTSD in military veterans is profound, even before considering the disabling sociocultural and personal impacts of ableism.

Virtual Reality Exposure Through *Bravemind (Virtual Iraq)*

The Development Of *Virtual Iraq* From *Full Spectrum Warrior*

Traditional treatments for PTSD have included pharmacological intervention, psychotherapy, and cognitive behavioral therapy (CBT). The most effective of these has been a specific type of CBT known as prolonged exposure therapy (PE), in which therapists help clients recount the trauma though imagination, or *imaginal* exposures, which summon acute symptoms that gradually subside during the therapy session. Over the course of several sessions, clients learn to cope with overwhelming triggers, which translates to everyday life. In essence, the process desensitizes clients to the emotional violence caused by PTSD triggers.

With the exception of pharmacology, each type of PTSD therapy has been enhanced by digital technologies in the past decade through computers and mobile devices that provide video and interactive treatment, therapeutic video games, and collaborative multimedia storytelling; biofeedback; and virtual reality (Clough & Casey, 2011; Coyle, Doherty, Matthews, & Sharry, 2007). Most of these treatments emulate face-to-face therapy, but virtual reality has progressed into a spectacular experience, in which "the sense of immersion or presence […] separates virtual reality from various other forms of communications or technologies" (Clough & Casey, p. 286). Virtual reality is a computer-simulated environment delivered through multimodal devices, most commonly consisting of a head mounted visual display piece and a body suit, sometimes including tactile feedback, sound, and scent. Unlike a movie, the computer interprets the user's head motions through a tracking system, thus making the experience interactive, plus it is possible for the computer operator—in the case of therapy, the therapist—to improvise the event. As a multisensory experience that is perceived as real through technological mediation, virtual reality exposure therapy (VRT) is considered *in vivo* (video in, video out) and realistic compared to traditional PE, which is *imaginal* and, hence, imaginary. As one VRT client explains, "When it's only visual, it's not really real—it's just a video game—but when the ground starts vibrating and you smell smoke and hear the AK-47 firing, it becomes very real" (Halpern, 2008, para. 15). Evidence shows that VRT is more effective than PE, in part because some people who experience PTSD are unwilling or unable to recall their trauma (Rizzo et al., 2006), but VRT

has been fairly expensive until the last several years, during which the price of virtual reality hardware has decreased.

In 1997, academic researchers instituted an experiment using a program, which it called *Virtual Vietnam* (Rizzo et al., 2006), to treat longstanding combat-related PTSD in Vietnam veterans. *Virtual Vietnam* was proven effective in 1999 (Rothbaum et al., 1999) through a case study of a client for whom other therapies had failed. A few years later, the idea for *Virtual Iraq* came to Rizzo (Rizzo et al., 2006), who had ties to *Virtual Vietnam* developers and who conveniently worked for the Institute for Creative Technologies, which developed *Full Spectrum Warrior* and *Full Spectrum Leader.*

> I was working on a talk about virtual reality, just sniffing around the Internet, and I saw this link for the video game Full Spectrum Warrior […] I said, "Oh, my God, that's Iraq!" It was instant. I thought we should take this game and run it in a head-mounted display right out of the box, for therapy. (A. Rizzo, as cited in Halpern, 2008, para. 17)

Rizzo contacted *Virtual Vietnam* programmer Jarrell Pair, and by February, 2004 they had assembled a prototype. Shortly after Hoge et al.'s (2004) findings of alarmingly high PTSD rates among Iraq War veterans were reported, the Office of Naval Research solicited ITC and Rizzo to develop the *Virtual Iraq* program (Rizzo et al., 2006), pledging financial support (Halpern, 2008; Rizzo et al., 2010). ICT developed *Virtual Iraq* by repurposing graphic assets from *Full Spectrum Command* and FSW as a cost-effective VRT application for treating recently redeployed veterans from Iraq and Afghanistan who were diagnosed with PTSD (Rizzo et al., 2006). As of 2010, *Virtual Iraq* was being implemented and researched at over 40 military and university sites (Rizzo et al., 2010; Rothbaum, Rizzo, & Difede, 2010); the project has since been updated and renamed *Bravemind* [4].

In VRT sessions, *Virtual Iraq* is controlled by a licensed therapist who has been trained to control the environment, gradually exposing clients to stressful triggers specific to the client. Rizzo et al. (2006) explain that *Virtual Iraq* includes six Middle East scenarios familiar to soldiers. Each scenario can be adjusted for day or night, weather conditions, and illumination of lights. Five user perspectives can be chosen for a given scenario, such as walking alone, with another soldier, with a patrol group, inside a Humvee (Figure 3), and so on. There is also a "Wizard of Oz" (para. 11) screen for the clinician, which depicts the scenario, input prompts, and real-time data on the client's vital signs. In addition to these visual features, the environment incorporates scented sprays, including burning rubber, body odor, diesel fuel, and gun powder (para. 7), and vibrations to emulate vehicular movement and explosions. The client holds a replica of a rifle to make the situation feel real, but the gun

cannot be fired in the virtual environment.

***Figure 3*. Pictured above is a scene from a *Bravemind* therapy session. Two soldiers sit inside of a smoky Humvee. The driver is bleeding badly from multiple, presumably fatal gun wounds; the other soldier, representing the client, looks at him from the back seat. Used with permission, ©University of Southern California Institute of Creative Technology.**

Problematic O/missions In The Literature On *Virtual Iraq*.

Most of the scholarly literature on *Virtual Iraq* has been internally authored by Rizzo and colleagues, who assess their project as successful according to a medical model perspective of disability. The medical model, which has been thoroughly critiqued in Disability Studies literature, views disability in clinical terms, as a problem necessitating medical intervention and cure. In terms of clinical efficacy, *Virtual Iraq* has been quite successful. The initial open trial involved recently deployed military personnel who had been treated unsuccessfully for PTSD using other methods (Yeh et al., 2009), and 75% of those who completed the study no longer met diagnostic criteria for PTSD (Rizzo et al., 2010), with 80% making significant gains and reporting anecdotal evidence of improvement (Yeh et al.). Rizzo and colleagues have been careful not to overstate the clinical success of *Virtual Iraq*, noting that some who registered for the research project failed to show up, and some quit before completing it (Rizzo et al., 2010; Yeh et al.). They also cite numerous reports that indicate a steady increase of PTSD and they discuss the health care and economic implications of this crisis (Rizzo et al., 2010). In support of their project, Rizzo et al. (2006) hypothesize that *Virtual Iraq* is successful because clients grew up with gaming and are more comfortable with and attracted to VRT compared to talk-based therapy, but they neglect to mention the program's masculine cache, or the stigma of traditional

therapy which it counteracts (Halpern, 2008). For example, a U.S. Marine veteran dubbed "Travis Boyd," who successfully completed VRT, stated,

> I didn't want to have it on my military record that I was crazy. […] Infantry is supposed to be the toughest of the tough. Even though there was no punishment for going to therapy, it was looked down upon and seen as weak. But V.R. sounded pretty cool. They hook you up to a machine and you play around like a video game. (Halpern, 2008, para. 13)

As Boyd's interviewer asserts, "Telling his buddies that he was going off to do V.R. was a lot easier than telling them he was seeing a shrink" (para. 13). Indeed, Hoge et al. (2004) found that only 23%—40% of Iraq and Afghanistan war veterans who probably had mental disabilities sought mental health care, largely due to stigma. The data outside of VRT research suggest that ableist stigma promoted within military culture escalates PTSD, provokes violence by soldiers with PTSD, and hinders treatment. And despite the cost-effectiveness of *Virtual Iraq*, Rizzo et al. (2010) clarify that the system is still expensive and that it can only be used by highly trained clinicians. Predictably, they recommend expanded use and further study of *Virtual Iraq*, including using the tool for assessing PTSD potential prior to deployment; for stress resistance training; for postdeployment reset training; for screening all returning soldiers for PTSD; for comparing different service branches in terms of susceptibility for PTSD; for neuroscience brain imaging; for use combined with psychopharmacology; and for improving *Virtual Iraq* per ongoing research. Their recommendations, while technically appropriate and amicable to their audience of clinicians and corporations that support their work, are steeped in an ableist, medical model tradition. The primary aims of Rizzo and colleagues have been to eradicate PTSD symptoms through VRT, thus restoring the client to an able-bodyminded state, or to precondition clients to trauma thus rendering them more able-bodyminded. Furthermore, *Virtual Iraq* is promoted as a relatively masculine, and therefore acceptable, method of treatment, thus bolstering the ableist sentiment that mental disability and treatment are effeminate, weak, and ultimately signs of personal failure. This discourse ignores the complexity of the PTSD treatment process, in which clients come to terms with their disability by confronting it rather than denying it.

The most troubling research *mission* of VRT, from a critical Disability Studies perspective, is outlined in Rizzo et al.'s (2006) paper for the 2006 *NATO Advanced Research Workshop to the Diagnosis and Treatment of Posttraumatic Stress Disorder*. After explaining that health care expenses for soldiers with PTSD is 60% higher than average, the authors suggest,

> The military could also benefit economically by way of reduced "turnover" of soldiers with mild PTSD. These personnel might be more likely to reenlist if their mental health needs were addressed soon after combat in a progressive manner via early VR assessment and treatment. As well, such a VR tool initially developed for exposure therapy purposes, offers the potential to be "recycled" for use both in the areas of combat readiness assessment and for stress inoculation. Both of these approaches could provide measures of who might be better prepared for the emotional stress of combat. (para. 17)

Rizzo et al.'s mission to utilize *Virtual Iraq* as a quick-fix to send soldiers back into combat and as a tool for stress inoculation is both problematic, from a mental health standpoint, and ironic, in the context of recycling. After all, the *Vitual Iraq* program is already "recycled" from games that are misleading in terms of disability, by presenting war as an exhilarating activity free of consequence. As such, the overarching clinical mission of *Virtual Iraq* is to mitigate damage that in some cases was spawned in the games of its graphic ancestry. Furthermore, a consequence of Rizzo et al.'s attention to economy is *omission* of attention to PTSD as disability, and the serious problems that have occurred. For instance, Matthew Marino's PTSD was misdiagnosed as anxiety and he was sent on another tour (Benjamin & de Yoanna, 2009; see de Yoanna & Benjamin, 2009a). *Virtual Iraq* has been spared the critical scrutiny of *America's Army* and retail violent video games, perhaps because it is sanctioned as therapeutic and potentially curative under the medical model of disability, which is why I have examined their close relationship.

Another omission from the academic research on *Virtual Iraq* is qualitative data from the veteran research participants with PTSD—what "anecdotal evidence" (Yeh et al., 2009) did they report? Did they appreciate the therapy and recommend it to peers? As participants maintained positive gains after three months (Yeh et al.), did they feel and identify as non-disabled? Would those who were successful in treatment consider another deployment? Do veterans treated for PTSD wish they would have experienced pre-combat virtual reality simulations? Having experienced PTSD, do they regret enlisting? Do "successful" VRT clients remain somewhat disabled? Did they and fellow military personnel receive adequate care? Has PTSD changed who they are, or the ways in which they conceptualize mental disability or masculinity? What influence did violent video games, including *America's Army* and *Full Spectrum Warrior* have in their decisions to enlist—and do they still play such games?

Partial answers can be found in popular media, Finley's (2011) anthropological study of veterans with PTSD, unpublished research,

and social networking sites, such as YouTube, in which people discuss things related to combat PTSD and *Virtual Iraq*. Beyond Travis Boyd's testimony cited above, he also described how distressing and emasculating the treatment process was:

> Each time [the therapist] added something, like an I.E.D. going off, or a plane flying over, I'd become more emotional. We'd do it over and over, and it would become easier, and then she'd add something more and the same thing would happen. I'd talk for forty minutes about this one five-minute thing. […] I'd be shaking. When it was over, I'd go home and cry. (Halpern, 2008, para. 15)

At the conclusion of the interview, Boyd summarizes that "[m]ost of the intrusive thoughts have gone away," and that "[y]ou never really get rid of P.T.S.D., but you learn to live with it" (Halpern, para. 36). These sentiments are echoed by Master Sgt. Robert Butler, a Marine combat cameraperson, in a video featured on the defunct disability social networking website, www.disaboom.com, which has continued to appear on other venues, including YouTube (http://www.youtube.com/watch?v=CAk7MxaEICs). Butler recounts a chaotic incident on a Father's Day in which his patrol unit destroyed a water truck containing a 16-year-old boy and his father. A year later, Butler was home, unable to carry out simple tasks, when he was diagnosed with PTSD by the division psychiatrist. He recalls his reaction to the diagnosis as "the last thing on the planet I wanted to hear." After two months of therapy, he applauds VRT, stating "I mean, am I a hundred percent better? No, I wouldn't say I was a hundred percent better. But I do have my life back." He credits the therapy for saving his marriage and possibly his life. A similar story appears on the news website *Salon* (http://www.salon.com), which frames a discussion of *Virtual Iraq* around "Kevin Smith" (pseudonym), allegedly the "first Iraq veteran who has completed the treatment to speak about it publicly" (Zimmerman, 2007, para. 7). Despite still not being able to confront some memories, which Smith asserted "are too much for me … I don't want to relive them again" (para. 17), he is touted as "one of the lucky ones" (para. 21) who has now been successfully treated. Most third-person accounts spin discussions of *Virtual Iraq* through a medical model lens that champions the program and its developers for helping soldiers to overcome their disability through courage and good fortune.

Zimmerman's (2007) article stands out in its attention to the most important omission within the literature on VRT, the U.S. military's care for disabled servicepersons and veterans. After billing Kevin Smith as a lucky one, Zimmerman argues that mental health is the largest unmet need in veterans' medical care, fueled by bureaucracy and, in the case of the Army, the intentional underreporting and underdiagnosing of PTSD to save money. This crisis has been well-documented since

Salon's 2009 exposé, "Coming Home: The Army's Fatal Neglect," which revealed preventable suicides, homicides, and drug overdoses of soldiers stationed at Fort Carson, Colorado Army base. The series identified a "record-setting pace" of Army suicides in 2008 and early 2009 (Benjamin, 2009), and several homicides, which the Army denied as corresponding to combat stress, despite evidence (de Yoanna & Benjamin, 2009b). Most of the "Coming Home" articles emphasize untreated, combat-related PTSD as the major contributing factor toward this violence, citing two main reasons for untreated PTSD: harassment and underdiagnosing. Soldiers with symptoms of mental stress were frequently "ridiculed or otherwise discouraged from seeking help" (de Yoanna & Benjamin, 2009b, para. 3; see Benjamin & de Yoanna, 2009d). Braswell and Kushner (2012) have linked this phenomenon to masculine ideologies promoted within the U.S. military, arguing that military suicides are often the result of excessive social integration into military culture, the values of which are mirrored in the scripts and actual gameplay of violent video games including FSW and, especially, *America's Army*. Bolstering Braswell and Kushner's argument, several "Coming Home" case studies (Benjamin & de Yoanna, 2009a, 2009b, 2009c) describe soldiers with PTSD being assaulted, berated, blamed, and intentionally misdiagnosed for their condition. In one case, a psychiatrist under surveillance admitted to following commands to misdiagnose PTSD and traumatic brain injury (de Yoanna & Benjamin, 2009a), and in another case, it took an attempted suicide and a private psychiatrist's diagnosis of PTSD before an Army psychiatrist finally changed a soldier's diagnosis to chronic PTSD (Benjamin & de Yoanna, 2009b).

Conclusion

In the past few years, the U.S. military has responded positively by devoting significant research to understanding PTSD and suicide. For example, the Pentagon set up a perpetual hotline for soldiers to arrange counseling, the Army contracted hundreds of additional mental health providers, the Army's surgeon general officially encouraged more accurate PTSD diagnoses, and the Army initiated a $50 million study of the rising suicide rates (Benjamin and de Yoanna, 2009d). While these efforts will hopefully result in better medical care for soldiers and veterans, the problem remains concealed in *America's Army* and other military visual culture, as well as literature on VRT. This points to the persistent paradoxical strategy outlined in this article: the military simultaneously promotes a culture of violence and ableist stigma regarding mental disability, while attempting to remedy the disabling consequences that result from its culture.

This paradox demands further attention of Disability Studies scholars whose primary disciplines include such fields as Sociology, Psychology, Media Studies, Rhetoric, Visual Culture, and Education. It is imperative for scholars whose work closely impacts adolescents and young adults to address implications of the U.S. military's use of violent video games with respect to disability. It is important for

learners to better understand the realities of military culture and combat, and to critically investigate the implications of violent video games, which function as rhetoric and art (Derby, 2014; deWinter, 2014). Students should be introduced to curricula that address these matters in terms of mental disability, which can serve not only to help aspiring soldiers make informed decisions about serving, but also to help young people understand the difficulties of disabled veterans, and to help young learners better understand the Army's motives according to its actions.

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Endnotes

1. Price (2011) explains: "I use the term *bodymind* to emphasize that although "body" and "mind" usually occupy separate conceptual and linguistic territories, they are deeply intertwined. This theory is drawn in part from Babette Rothschild's *The Body Remembers*. Although Rothschild's usage refers to persons who have experienced trauma, I believe it can be usefully applied to persons with mental disabilities of all kinds…" (p. 240). Here, I am using the term to refer to all people with the agenda of working against the enforcement of an able/not-able constitutional divide (Campbell, 2009) and its ancillary divisions within the disability community.
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2. I consider "mental disability" to be less contentious and more accurate than clinical terms such as "mental illness," "mental disorder," and "psychiatric disability," which emphasize pathology and locate disability within medical industries. I believe "mental disability" also works toward solidarity and equality within Disability Studies.
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3. Costs of War reports are updated periodically rather than continuously, representing different tabulation dates and sometimes replacing previously posted information.
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4. The current incarnation of the *Virtual Vietnam* and *Virtual Iraq* project is named *Bravemind*. I use *Virtual Iraq* in reference to that specific application and the literature surrounding it, and because *Bravemind* remains widely known as *Virtual Iraq*.
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