

Moral Injury and Moral Healing in Prolonged Exposure for Combat-Related PTSD:**A Case Study**

Wyatt R. Evans, *University of Texas Health Science Center at San Antonio*

Laurie H. Russell, *Baylor University*

Brittany N. Hall-Clark and Brooke A. Fina, *University of Texas Health Science Center at San Antonio*

Lily A. Brown and Edna B. Foa, *University of Pennsylvania*

Alan L. Peterson, *University of Texas Health Science Center at San Antonio, South Texas Veterans Health Care System, University of Texas at San Antonio*

for the Consortium to Alleviate PTSD

Moral Injury and Moral Healing in Prolonged Exposure for Combat-Related PTSD:

A Case Study

Highlights:

- Prolonged Exposure (PE) may be targeted to facilitate moral healing in the course of PTSD treatment
- Emergent conceptualizations of moral injury are compatible with the PE model
- In vivo and imaginal exposure procedures may be expanded to meet patient needs
- This case example demonstrates positive functional outcomes in a soldier with PTSD and moral injury

This research was supported by Consortium to Alleviate PTSD award numbers W81XWH-13-2-0065 from the U.S. Department of Defense, Defense Health Program, Psychological Health and Traumatic Brain Injury Research Program (PH/TBI RP), and I01CX001136-01 from the U.S. Department of Veterans Affairs, Office of Research & Development, Clinical Science Research & Development Service. The views expressed herein are solely those of the authors and do not reflect an endorsement by or the official policy or position of the Department of Defense, the Department of Veterans Affairs, or the U.S. Government.

Address correspondence to Wyatt R. Evans, Ph.D., VA North Texas Health Care System, 2201 SE Loop 820, Fort Worth, TX 76119; WyattREvans@gmail.com

Abstract

Prolonged Exposure (PE) is a highly effective treatment for posttraumatic stress disorder (PTSD) across a variety of delivery formats and samples. However, for military service members, the treatment tends to be less effective than for civilians. One explanation for the reduced response to PE in military service members is the frequency, intensity, and heterogeneity of combat trauma. Combat trauma may yield a variety of posttraumatic responses, including moral injury, or the psychosocial-spiritual suffering consequent of exposure to moral injurious events. Despite rapidly increasing research on combat-related moral injury, little clinical guidance exists on how or if moral injury may be addressed via trauma-focused treatments such as PE. This case report describes the facilitation of moral healing for a U.S. Army soldier with combat-related PTSD in a 3-week intensive outpatient PE program. While PTSD symptoms were reduced from pre- to posttreatment, even more substantial treatment gains were observed in the soldier's functional changes, engagement with values-based activities, and his reported willingness to embrace moral pain. Although not explicit in the PE manual, targeting these latter outcomes in PE can facilitate moral healing in service members with PTSD. This case report provides a detailed description of how PE procedures were targeted to address moral injury and where theory-driven augmentations were included to facilitate moral healing.

Keywords: moral injury; prolonged exposure; combat-related PTSD

Prolonged Exposure (PE) is an evidence-based psychotherapy that is highly effective in reducing posttraumatic stress disorder (PTSD) symptoms. Multiple meta-analytic reviews have demonstrated that PE has medium to large effect sizes on posttreatment and follow-up symptom reduction, and the majority of civilian patients who complete PE no longer meet diagnostic criteria for PTSD (Bradley et al., 2005; Powers et al., 2010). However, like other trauma-focused treatments, PE consistently yields smaller effect sizes with military and veteran samples compared to civilians (Steenkamp et al. 2015). The first randomized controlled trial for PE for combat-related PTSD in active-duty military personnel (Foa et al., 2018) found that PE was associated with significant reductions in PTSD symptoms, and 40–45% of participants no longer met diagnostic criteria for PTSD at posttreatment and follow-up assessments. This study demonstrated that PE can be an effective treatment for reducing combat-related PTSD symptoms in service members. However, something about the experiences of this population—possibly the causes or the manifestations of posttraumatic stress—leads to less recovery following PE than in nonmilitary populations.

A number of cultural and logistical factors present potential barriers to both treatment engagement and implementation of trauma-focused treatment with military personnel (Hall-Clark et al., 2019; Wachen et al., 2017). These may account, at least in part, for these smaller effect sizes. Among the logistical barriers is the traditional format of PE, which entails 8 to 12 once or twice weekly sessions along with time- and labor-intensive daily homework. Massed PE, which includes 90-minute treatment sessions on a *daily* basis for 2 weeks, may address this barrier (Blount et al., 2014; Foa et al., 2018). This format has multiple benefits on individual and unit levels, facilitating a much briefer “down time” in operational readiness for the service

member. Potential limitations of massed PE include insufficient time between sessions for homework completion and a focus on the worst (index) traumatic event (see Peterson et al., 2018, for a more detailed discussion of these limitations).

Unique cultural and contextual elements of deployment-related traumas and operational stressors have also been posited as contributors to decreased effectiveness of current trauma-focused treatments (Gray et al., 2012; Nash, 2007). These elements include the chronicity of deployment-related stress as well as the wear and tear physically, mentally, emotionally, and spiritually on service members. Furthermore, it is likely that service members experience multiple traumas across an array of trauma types (Litz et al., 2018). This may contribute to difficulties tailoring treatments, which have historically focused on a single, life threat-based traumatic event. Recently, Litz and colleagues (2018) demonstrated that war zone traumas are heterogeneous and different trauma types are associated with distinct manifestations of distress. Among these trauma types, morally injurious events—events that violate one’s most deeply held moral values—were uniquely associated with elevations in PTSD symptoms (e.g., avoidance, reexperiencing) relative to participants with life threat-based traumas (Litz et al., 2018).

Moral Injury

Moral injury is one of the hallmark combat stress injuries, along with trauma, grief, and wear and tear, born by military personnel surviving combat and other high operational stress environments (Nash, 2007). In deployment settings, potentially morally injurious events have been found to affect about 42% of service members (Wisco et al., 2017). Moral injury was seminally defined in psychology literature as “the lasting psychological, biological, spiritual, behavioral, and social impact” of exposure to potentially morally injurious events. The moral

injury sequelae includes PTSD-like symptoms (i.e., intrusive memories, numbing, avoidance) as well as collateral effects such as self-injury, demoralization, and self-handicapping (Litz et al., 2009, p. 697). Even as the definition of moral injury is rapidly evolving, researchers recognize at least a partial distinction between PTSD and moral injury (Bryan et al., 2018).

A recent definition of moral injury by Farnsworth et al. (2017) highlighted the functional distinction between symptoms of PTSD (e.g., avoidance of *feared* situations) and moral injury (e.g., avoidance related to belief of unworthiness of love) and defined moral injury as the “expanded social, psychological, and spiritual suffering stemming from costly or unworkable attempts to manage, control, or cope with the experience of [moral judgments and dysphoric moral emotions]” (p. 392). From this perspective, moral injury may co-occur and interact with a range of symptoms and disorders and, indeed, several researchers have provided preliminary evidence of relations between moral injury and depression, anxiety (Evans et al., 2018), suicidality (Wisco et al., 2017), as well as PTSD (Bryan et al., 2016). When co-occurring with PTSD, moral injury may complicate standard trauma-focused treatment by altering the function of mechanisms in PTSD development and maintenance (e.g., avoidance).

While some authors highlight the limitations of current evidence-based practices for PTSD when targeting moral injury, others tout explicit applicability of these interventions for moral injury. Readers are directed to the commentaries and discourse between Steenkamp and colleagues (2013) and Smith and colleagues (2013) as well as between Wachen and colleagues (2016, 2017) and Gray and colleagues (2017) in *Cognitive and Behavioral Practice* for more information on competing perspectives on PE and other trauma-focused, cognitive-behavioral interventions for moral injury. Valuable research and powerful intervention tools are coming from clinicians and researchers with a range of perspectives. We contend that PE may be a useful

intervention for addressing moral injury; however, there is a dearth of published guidance on *how* PE may be employed to facilitate moral healing.

The Current Paper

The primary objective of this paper is to describe how PE may be focused to facilitate moral healing while treating PTSD. Our goal is not to advocate for selection of one treatment over another. We acknowledge the presence of promising practices for moral injury, including Adaptive Disclosure (AD; Litz et al., 2016), Impact of Killing in War (IOK; Maguen et al., 2017), and Acceptance and Commitment Therapy for Moral Injury (ACT-MI; Farnsworth et al., 2017; Nieuwsma et al., 2015). Recognizing, too, that service members may experience moral injury without a PTSD diagnosis, we acknowledge that PE—an evidence-based treatment for PTSD—may not be indicated in all cases. Our goal is to expand consideration for implementation of PE for combat stress injuries beyond those rooted in fear and life-threat and to provide guidance for how to target processes and augment procedures to facilitate moral healing.

The limited literature on the use of PE to address elements of moral injury has focused primarily on guilt and shame (Paul et al., 2014; Rauch et al., 2013; Smith et al., 2013). Authors have largely focused on guilt and shame that were contextually incongruous; that is, by including previously omitted contextual details from their recollection and beliefs about the traumatic events, emotions of guilt and shame were ameliorated. To that end, the objective of the intervention was eliminating shame and decreasing “inappropriate” guilt. Although this cognitive intervention plays a valuable role in developing a new understanding, it may fall short in addressing intentional and explicit perpetration or perceived violations wherein, even with all

contextual information incorporated, actions or inactions represent transgression of one's moral values.

Many providers anecdotally describe their skillful strategies for addressing moral injury in PE; some of these frequently discussed strategies are represented in the PE manual (Foa et al., 2007), whereas others are not. Therefore, the goal of this article is to offer unique options for addressing moral injury and to highlight and elaborate upon strategies that are mentioned in brief in the PE manual. To do so, we will discuss our work with a soldier in the U.S. Army who experienced multiple morally injurious events during a deployment to Iraq. We will then discuss moral healing processes as they both fit within and augment the PE protocol.

The Patient¹

SPC Jacobs was a 27-year-old U.S. Army Soldier who had served on active duty for two and a half years with one, 9-month deployment prior to his enrollment in an intensive outpatient PE program (Peterson et al., 2018). He was referred to this program following completion of a group Cognitive Processing Therapy (CPT) program. SPC Jacobs experienced no reduction in PTSD symptoms or overall distress and reported no observable change in his daily functioning following completion of this previous group. He was originally referred by his leadership to the CPT group following a medical evacuation from Iraq.

SPC Jacobs was married for 8 years at the time of treatment and had two children under the age of 6. He spent the majority of his childhood living with his grandfather in rural Texas. At

¹Several personal and military demographic details were changed for this report to protect the soldier's confidentiality. The name is a pseudonym. Consent was provided by the soldier to write this case report.

age 15, he moved to a large city in Texas to live with his mother and brother in order to help support his mother's health care needs, though he continued to spend the summers on his grandfather's farm. He was raised by his grandfather with a deep Christian faith, strong values of compassion and altruism, and a prevailing contempt for bringing harm to others. After high school, he attended a small college, dropping out after a year and a half to support his wife and newborn son. Throughout school, he was relatively quiet and reserved, reporting in treatment that "Everyone knew my *name* but not many people knew *me*."

SPC Jacobs joined the Army to support his family after he was laid-off of work. He acknowledged that, even from the time of his enlistment, he experienced a discrepancy between his values and values of the Army. He initially sought to become a chaplain's assistant and provide spiritual support to soldiers; however, upon entry, SPC Jacobs was assigned to an artillery military occupational specialty. He was deployed to Iraq in 2016, where he served 9 months of his tour before sustaining injuries requiring that he return home.

Treatment Structure

The treatment program in which SPC Jacobs participated was a 3-week intensive outpatient program utilizing PE (IOP-PE; Peterson et al., 2018). He met with a treatment team (one primary therapist and two secondary therapists providing coverage and consultation) at three time points between 0800 and 1700 Monday through Friday. The first daily meeting was comprised of the standard 90-minute PE session (Foa et al., 2007). In this program, rather than focusing on a single, most distressing trauma, three traumas were collaboratively identified for a gradual exposure sequence from least to most distressing. Afterward, the soldier was assigned one or two in vivo exposures to complete (over about 3 hours) before the second meeting, at

which point the therapist and soldier debriefed about his experience with in vivo exercises. After this second meeting, the soldier was given space in the clinic to listen to the recording of the morning session. Then the soldier and therapist met once more to discuss reactions to the recording, reflect on the treatment day, and plan in vivo exposures for the remainder of the day. After completing 15 consecutive sessions, the soldier returned for follow-up booster sessions at 1, 3, and 7 weeks posttreatment.

Symptom Measurement

As part of the assessment procedures for the program, PTSD and depression symptoms were measured by the PTSD Checklist for DSM-5 (PCL-5; Weathers, Litz, et al., 2013) and Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001), respectively. These self-report measures were administered at baseline; after Sessions 5, 10, and 15; and at a 1-month follow-up assessment. The Clinician Administered PTSD Scale for DSM5 (CAPS-5; Weathers, Blake, et al., 2013) and Brief Inventory of Psychosocial Functioning (B-IPF; Kleiman et al., 2018) were administered at baseline and the 1-month follow-up assessment.

Traumatic Events

Trauma #1

When SPC Jacobs was 15 years old, he was the first to arrive on the scene after his best friend died by suicide. He described his relationship with this friend as “like brothers,” indicating they were “basically inseparable.” Around the time of this event, SPC Jacobs and his friend were being scouted by many of the same universities to play college football and had shared hopes of playing for the same university. A few days before the suicide, SPC Jacobs received an offer

from a highly competitive university from which his friend did not receive an offer. Though SPC Jacobs did not intend to accept that offer, he had not yet told his friend about his intention. On the morning of the suicide, his friend called SPC Jacobs and asked him to come over; however, SPC Jacobs had other plans and told him he would come over later. Later in the day, when his friend stopped responding to texts/calls, SPC Jacobs grew concerned and went to the friend's house where he discovered his friend deceased, having hung himself in his bedroom. SPC Jacobs attempted to revive his friend, performing CPR for over an hour before additional help arrived. He was later informed his friend had died only about 10 minutes before his arrival.

Trauma #2

Approximately 6 months into his deployment, SPC Jacobs was given a fire mission in the middle of the night. SPC Jacobs was the one to prepare the fuses and, when the order was given to fire, SPC Jacobs was the one who pulled the pin, firing the explosive round. Shortly after the impact, SPC Jacobs and the other soldiers heard a woman screaming. They were then given a ceasefire order, as the explosion was quickly determined to have resulted in civilian deaths. At that point, SPC Jacobs moved away from the other soldiers and sat alone, during which time he experienced overwhelming guilt and anger. When his commander returned, he reportedly said, "We're clear, it was *just* the sanitation worker and his family," following which the other squad members expressed relief and reportedly made jokes about the deceased. Upon hearing this, SPC Jacobs became angry with his squad and leadership, felt strong guilt as well as shame, and experienced disgust at the commander's use of the word "just" to minimize the lives lost and at the squad members' callous responses. After this event, SPC Jacobs refused to fire the gun again. After discussing the incident with a chaplain, SPC Jacobs was reassigned.

Trauma #3

About three 3 after trauma #2, SPC Jacobs was performing his duties with his noncommissioned officer (NCO) in the ammunition holding area when they began receiving incoming mortar and small arms fire. As SPC Jacobs and the NCO approached the exterior wall to visually inspect the situation, they noticed an Iraqi woman and a young boy “pinned down in the cross fire.” While his NCO gave cover fire, SPC Jacobs ran to the position of the woman and boy in an attempt to help them out of the combat zone. Once he got to their position, the woman asked him to take the boy to safety, revealing that she had been fatally wounded. SPC Jacobs promised her he would, secured the boy to the front of his vest, and signaled his NCO to provide suppressive fire so he could run back with the boy. As he ran back, he was grazed by several bullets, though he did not know this at the time. One bullet hit his vest in the center of his lower back, causing him to stumble as he ran. Again, unknown to SPC Jacobs at that moment, a bullet entered and exited the boy’s chest as he stumbled. After running back, SPC Jacobs jumped over the wall, breaking his own ribs when he landed, and then secured cover from the ongoing firefight. He reported it took him a couple minutes to catch his breath and reorient himself. After those few minutes, he looked down to discover he was covered in blood and the boy was already dead. He reported an overwhelming flood of emotions at the time, which he identified in treatment as sadness, grief, guilt, and anger. He was evacuated to the local combat support hospital for his physical injuries and was subsequently evacuated out of the combat theater and returned to his home duty station.

Conceptualization and Therapy Process

The theoretical underpinning of PE, Emotional Processing Theory (EPT), posits that fear

structures are comprised of associative networks including feared stimuli, responses, and meaning elements (i.e., interpretations of stimuli and responses). Following traumatic events, these fear structures may come to include stimuli, responses, and meanings that do not accurately reflect the potential for or presence of danger (Foa & Kozak, 1986). EPT proposes repeated activation of fear structures along with incorporation of new information disconfirms or alters maladaptive and erroneous connections within the fear network (Foa et al., 2006).

Recent literature has emphasized that the objective of emotional processing is, as its name suggests, processing of a range of emotions, not just fear (Friedman et al., 2007). However, as the emphasis of research and discourse has long been placed on fear and anxiety, this broader framework is often overlooked. This may not be problematic in addressing PTSD stemming from acute, life-threat based trauma. However, it may negatively influence providers' consideration of PE when selecting a treatment for service members who have PTSD and also experience psychosocial-spiritual distress related to other combat stress injuries. Likewise, it may hinder complete conceptualization and treatment planning.

Our team conceptualized many of SPC Jacobs' PTSD symptoms as related to problematic connections within fear networks. For example, during his deployment, crowded places, cramped spaces, and open areas had all been associated with danger. Thus, he avoided such places out of concern for his safety and fear that his anxiety would become overwhelming. However, we also observed that his avoidance behaviors served to "protect" others from his "moral contamination" and to circumvent further experiences of guilt, shame, disgust, and anger.

In part, these moral emotions may be assuaged by incorporating new information about the perceived violations that helps to reduce self-blame, condemnation, etc. (Held et al., 2017; Smith et al., 2013). However, consistent with Farnsworth and colleagues' (2017)

conceptualization of moral injury, we also acknowledged that not all dysphoric moral emotions and judgments (i.e., moral pain) are problematic or based on erroneous beliefs. Indeed, moral pain may serve an important social function (Keltner & Gross, 1999) and, thus, cannot (perhaps, should not) be reduced via cognitive restructuring. Accordingly, our conceptualization included acknowledgment of distorted cognitions *as well as* accurate interpretations and painful emotions to which SPC Jacobs lacked a sufficient behavioral repertoire for responding. Our treatment emphasized amendment of cognitive distortions *and* new learning that increased his repertoire for responding to moral pain.

Therapeutic Stance and Alliance

The therapeutic alliance is an essential element of any effective intervention (Martin et al., 2000) and is especially salient in intensive, exposure-based treatments such as the IOP-PE (Peterson et al., 2018). Having previously completed a group-based PTSD treatment program, SPC Jacobs had interacted with other soldiers with PTSD and felt strongly that his experience was qualitatively different. Accordingly, it was requisite for developing rapport that our treatment team began with openness to learning about SPC Jacobs' understanding of his own experience including his beliefs about cause(s), effects, and how healing could happen.

Farnsworth and colleagues (2017) note that, even in the presence of evidence to the contrary, patients may firmly experience their moral judgments as being appropriate. Other authors have warned that attempts to restructure or reduce perceptions of culpability with such patients may be perceived as a further affront to their personal values, potentially damaging the therapeutic alliance (Gray et al., 2017). Thus, in the first session and throughout the program, the team sought to achieve a balanced stance from which to emphasize key procedures and

objectives of PE (e.g., alteration of maladaptive cognitions; reduction in undue guilt, shame) while also maintaining openness to the reality of SPC Jacob's moral pain and fostering his openness to the same.

Treatment Planning

The program in which SPC Jacobs enrolled was a randomized controlled trial of PE delivered in an intensive outpatient format (Peterson et al., 2018). Thus, treatment planning did not include a broader consideration of alternative treatment modalities. As SPC Jacobs had completed one PTSD program with minimal decrease in distress or increase in functioning, it may have been appropriate to consider moral injury-focused interventions (e.g., ACT-MI, AD, IOK). However, we believe, by incorporating moral injury into our conceptualization, SPC Jacobs was able to experience meaningful recovery and healing via this treatment model.

Recommendations for Conceptualization and Treatment Planning

- When determining the focal event(s) for treatment, inquire about traumatic events that violated deeply held values in addition to those that may have represented threat to life.
- Assess for manifestations of moral pain (e.g., guilt, self-condemnation, anger, sense of betrayal) in response to traumatic event(s).
- Conduct initial and ongoing functional analysis to determine function(s) of avoidance and other problematic behaviors.
- Demonstrate openness to patient's own conceptualization and do not attempt to minimize the patient's experience of moral pain or prematurely challenge beliefs.

- Utilize a functionally based conceptualization to determine appropriateness of PE (or other PTSD treatments) versus those specifically targeting moral injury.

Psychoeducation

Educating the patient occurs throughout PE, though the majority of psychoeducation occurs during the first three sessions. The first session introduces information on the targets, processes, and procedures of PE. The second session presents details on common reactions to trauma and the rationale for in vivo exposure. A rationale for imaginal exposure is presented in Session 3. In our sessions, we covered all standard session content, emphasized standard content relevant to moral injury, and expanded certain points to acknowledge a range of emotional and behavioral responses to morally injurious events. While debriefing on the video shown following session one, SPC Jacobs stated, “that doesn’t really sound like my experience at all... he saw bad things; I did bad things.” The provider responded with understanding of these divergent qualities, which was a valuable therapeutic intervention and further facilitated rapport. His response, too, further informed how ongoing psychoeducation could be enhanced.

In Session 1, five of the major points of the “Rationale and Treatment Overview” were expanded. First, in addition to normalizing stress in response to traumatic events, the therapist *normalized moral pain in response to morally injurious events*. Second, while providing information about how avoidance maintains PTSD symptoms and limits options in daily living, the therapist also *provided information on how avoidance of personally meaningful activities increases suffering and decreases meaningfulness in life*. Third, in addition to delineating standard PE processes of cognitive and behavioral change, the therapist also *noted the flexibility within the protocol to foster acceptance of the meaningful aspects of moral pain*. Fourth, while

describing how in vivo exposures may decrease fear and anxiety, the therapist also *described how exposures can increase connection, pleasure, and fulfillment*. Finally, in addition to explaining how imaginal exposure increases the ability to “file away” trauma memories and process painful emotions, the therapist also *explained how imaginal exposure and processing can also increase ability to learn from painful memories and emotions that may meaningfully inform future behavior*.

In Session 2, the discussion of “Common Reactions to Trauma” and the rationale for in vivo exposures was expanded. Facilitating a discussion with SPC Jacobs, the therapist explained that this activity would “help [him] to understand more about common responses to trauma” and would also “help [us] to understand more about [his] unique experiences and struggles.” The therapist not only reviewed the common symptoms of PTSD, but also discussed how moral injury may be expressed, and highlighted how symptoms may function in multiple ways. For example, we delineated how avoidance may function both as a means of allaying anxiety and may also serve to “protect” others or punish the self by eschewing enjoyable and meaningful activities. Augmentations to the rationale for in vivo and imaginal exposure are delineated in the following sections.

Recommendations for Psychoeducation

- Provide psychoeducation on full range of emotional and behavioral responses to morally injurious traumatic events alongside standard PE psychoeducation.
- Accept and even solicit feedback from the patient regarding consistency between information provided and his or her lived experience.

- While maintaining psychoeducational material from the manual, include relevant data-based and theoretically informed information about moral injury and moral healing.

Targeting in Vivo Exposures

The PE protocol (Foa et al., 2007) describes in vivo exposure as “confronting feared stimuli” and this procedure entails the patient approaching and staying in fear-provoking places or situations repeatedly for extended periods of time. The primary stated objective of in vivo exposure is new learning via “habituation” or, rather, via extinction learning (Foa et al., 2007). This occurs when the conditioned (neutral) cue/context (e.g., crowd) is approached repeatedly in the absence of the unconditioned stimulus (e.g., gunfire, explosion) such that the conditioned responding gradually decreases. Extinction is achieved when one no longer exhibits undue anxiety, fear, etc., in the situation. Recent literature on inhibitory learning models necessitates a reconsideration of how this learning process unfolds. These models demonstrate how, rather than “unlearning” associations between stimuli, new associations are learned that compete with (i.e., inhibit) previous associations (Craske et al., 2008). Indeed, the broader learning literature demonstrates a multitude of processes by which new learning occurs (Hofmann, 2008).

The PE manual (Foa et al., 2007) delineates three types of situations that are commonly avoided and may be helpful to include among in vivo exposures: situations (erroneously) perceived as dangerous, reminders of the trauma(s), and activities in which the patient has lost interest. Recently, authors (e.g., Smith et al., 2013) have recommended adapting in vivo exposures to include social engagement, which is also briefly discussed in the PE manual (Foa et al., 2007; pg. 65). Growing literature on moral healing has highlighted the importance of forgiveness of self and others (e.g., Gray et al., 2012) as well as reengagement with values,

especially those that may have been violated by the morally injurious event (Farnsworth et al., 2017). More recently still, Hall-Clark and colleagues (2019) proposed that military personnel may benefit from in vivo exposures encouraging emotional expression.

Drawing from these recommendations, we constructed SPC Jacobs' in vivo hierarchy in Session 2. Many of the things/situations avoided due to fear/anxiety and perceived dangerousness were readily identifiable. However, the providers engaged SPC Jacobs in discussion about these other commonly avoided experiences and situations to help generate a more holistic list (Table 1). To generate activities for behavioral activation, we asked questions such as, "What are some things you enjoyed doing before deployment?" To generate social engagement items, we asked, "What are your favorite things to go do with your kids? Your wife? Your friends?" To generate emotional expression items, we asked, "Whose love and support do you value most?" and followed up with, "How do you prefer to talk with him/her?" Finally, to generate values-based activities, we asked, "What do you miss most about your life before you deployed?" This last question may not directly assess values but was selected to temporarily sidestep SPC Jacobs' belief that he did not deserve these things in his life anymore—"missing" something is not contingent on "deserving" it. We observed that many of the activities served multiple purposes.

Valued activities with which SPC Jacobs had been less engaged since returning from deployment included loving his family, growing his faith, and giving kindness to others. Examples of in vivo exposures facilitating values-based behavioral activation included talking with his grandfather on the phone, paying for the person behind him in line at Starbucks, attending church worship services, and taking his children to the park. Many of these facilitated

approach (vs. avoidance) and new learning in multiple ways (e.g., habituation to feared situations *and* connection to valued community).

Also with regard to in vivo exposures, safety behaviors (e.g., scanning, exit planning) have been implicated in the maintenance and generalization of distress among people with PTSD (Hall-Clark et al., 2019; Rauch & Foa, 2006). These behaviors, which serve to maintain safety in high-stakes contexts, generate undue anxiety in objectively safe contexts. Patients are guided to regulate safety behaviors in the service of disconfirming beliefs about their necessity to then ameliorate associated anxiety. In our practice, we encourage patients to anchor attention to something nonthreatening to help regulate these behaviors. During in vivo exposures, SPC Jacobs was encouraged to anchor his attention to a person of importance (e.g., his children). By selecting a high-value “anchor,” SPC Jacobs was working to overcome disproportionate attention to a perceived threat while also purposefully paying attention to a source of meaning.

Finally, forgiveness, which has been widely described as an essential component to moral healing (Farnsworth et al., 2017; Litz et al., 2009; Maguen et al., 2017), was incorporated into in vivo exposures. This was not discussed in Session 2 because SPC Jacobs was not yet open to considering how forgiveness may be accessible to him. Opportunities to incorporate forgiveness-focused in vivo exposures presented themselves later. Importantly, we collaboratively defined forgiveness in behavioral terms as something achieved through behaviors chosen and enacted because they overtly align with the values previously violated. For example, in processing his response to the second trauma, he observed that the value violated was a deep caring and compassion for children and families. Thus, SPC Jacobs selected an in vivo exposure in line with this value. He and his wife began participating in a program where they could donate soccer gear to children and household items to families in Iraq. As he used to play soccer with the children

killed in this attack, this action held a very deep and restorative meaning. Engaging this behavior generated hope and acknowledgment that he remains capable of good intentions and actions.

Recommendations for Targeting in Vivo Exposures

- In addition to habituation to feared stimuli, in vivo exposure can facilitate social engagement, emotional expression, and pleasurable and/or meaningful behaviors. Include a broad range of in vivo exposures with a variety of targets.
- When encouraging intentional attentional focus (i.e., to regulate safety behaviors), select a high-value “anchor” that allows the patient to pay attention to a source of meaning/pleasure.
- Facilitate forgiveness via in vivo exposures chosen and enacted because they overtly align with values previously violated.

Targeting Imaginal Exposure

The PE manual (Foa et al., 2007) includes five points in the rationale for imaginal exposure provided to patients: (1) Organizing the memory, (2) Differentiating “remembering” and “reexperiencing”, (3) Habituation (extinction), (4) Differentiating traumatic event(s) from similar events (i.e., contextualizing), and (5) Increasing sense of self-control. These goals are often conveyed via two metaphors. The first likens the mind to a filing cabinet and illustrates how, because of the unexpectedness of trauma, these experiences are more difficult to neatly “file away.” Organizing the “filing cabinet” helps achieve goals one and four. In the second metaphor, the physical discomfort felt after eating a large meal is likened to the psychological discomfort after trauma. Just as the physical discomfort remains until the food has been digested, the psychological pain remains until the troubling thoughts and emotions are digested, or

“processed.” This metaphor illustrates how goals two, three, and five are achieved. While this rationale resonated with SPC Jacobs in some ways, he experienced some discomfort and disbelief at the notion that his emotional experiences could—or should—“digest” or change in any way. We will discuss how we augmented some of our processes and goals accordingly after briefly describing our procedure.

The imaginal exposure procedure was completed at each 90-minute session. Sessions 3–6 focused on the first trauma, Sessions 7–10 on the second trauma, and Sessions 11–14 on the third. The procedure for imaginal exposure was conducted as written in the PE manual (Foa et al., 2007) regarding time allotted (30–40 minutes), SUDs tracking, eyes closed, and narration in present tense. Guiding inquiry throughout the imaginal exposures sought to bring SPC Jacobs into contact with emotions such as fear and anxiety *as well as* painful moral emotions. (Note: The purposes of contacting these emotions were categorically different and will be discussed later in this section.) Additionally, beyond verbalizing sensory observations, he was also prompted to elaborate on the details of thoughts, emotions, and interpersonal interactions.

Returning to SPC Jacobs’ concerns about the rationale—he verbalized the belief that his emotions, particularly guilt, disgust, and anger, were appropriate and justified. Moreover, he expressed a sense that to *not* have these emotions “would make [him] even more of a monster than [he was] already.” As previous unsuccessful attempts (i.e., CPT group) to alter the self-condemning beliefs were perceived by SPC Jacobs as highly invalidating, we received this feedback with gratitude, as it provided an opportunity to collaboratively expand our goals.

Our response was to share hopes (i.e., treatment goals) of *both* reducing undue guilt, anger, blame, etc., *and* accepting meaningful emotional and cognitive responses to these events. The objective of both interventions was reestablishing accessibility of a fuller range of life

experiences even with the reality of past events and their effects. We contend this framework and these treatment goals are consistent with the theory underpinning PE and, while not explicit in the manual, are applied widely by seasoned PE practitioners, particularly when familiarity with the growing moral injury literature informs case conceptualization and treatment planning.

The overall objective of imaginal exposure with SPC Jacobs was new learning. In some cases (e.g., fear, exaggerated threat perception), this may have occurred via habituation as he experienced these emotions in the safety of the therapeutic setting and observed no permanent harm to himself. With other experiences (e.g., guilt, contempt, condemnation), habituation was not the primary process by which we believe new learning occurred. The purpose of contacting moral emotions during imaginal exposure was different than the goal of contacting fear and anxiety. The goal of contacting moral emotions is expansion of behavioral repertoire for responding to them. This then allows for behavioral flexibility, which can decrease suffering and increase functioning.

For some moral emotions experienced in relation to a moral violation (e.g., guilt), habituation cannot occur for as long as the individual continues to value the moral/principle that was violated. That is, for as long as that important value (e.g., caring, compassion) remains in place, the memory of the transgression *cannot* be presented without the cognitive (and emotional) acknowledgment of that violation. Whereas, with life threat-based traumas, the memory can be presented without the threat to life and, thus, fear/anxiety no longer represent adaptive responses (so can be extinguished), guilt remains a functional, adaptive response to reflecting on the moral violation, as it orients the transgressor to restorative action and/or motivates disengagement from (or prevention of) future values-inconsistent action.

Recommendations for Targeting Imaginal Exposures

- As with other psychoeducational components, deliver the rationale for the imaginal exposure with an openness to the patient's beliefs about what can (or should) change about his or her interpretations of this event.
- Goals of imaginal exposure and emotional processing should include both reducing excessive or undue distress *as well as* accepting meaningful emotional and cognitive responses to these traumatic events, even those that may be uncomfortable.
- Though the imaginal exposure procedure remains consistent, awareness of differential learning processes should guide selection of prompts/questions and for processing.

Targeting Processing in Session

The dialogue between provider and patient that follows the imaginal exposure involves “encouraging the client to talk about his reactions to revisiting the trauma memory and discussing feelings and thoughts that he may have about the trauma or its meaning in his life ... creat[ing] powerful opportunities for learning” (Foa et al., 2007, p. 80). This definition allows for a great deal of flexibility in the course and content of these 20–30 minutes of the session. Again, PTSD treatment literature commonly emphasizes reducing fear and anxiety and amending distorted beliefs. However, in trauma-focused practices, the insufficient narrowness of this focus is often understood, and seasoned PE practitioners regularly expand the scope of processing to meet the patient's needs.

Previously, authors have provided valuable insight into how exaggerated guilt and shame caused by distorted beliefs about culpability may be reduced by incorporating relevant contextual information into the individual's interpretation of the event, thereby altering meaning made from

it (Held et al., 2017; Smith et al., 2013). In keeping with these recommendations, processing with each of SPC Jacobs' traumatic events included an initial focus on modifying problematic associations within fear structures as well as restructuring distorted beliefs. For example, in exploring self-blame and guilt related to his friend's suicide, incorporating information about his friend's stressful life experiences and considering the steps he took to save his friend's life helped SPC Jacobs to experience a significant decrease in shame and some reduction in guilt. With regard to the second event, discussion of the origin of the order to fire, ramifications of disobeying that order, his expectations/intentions when firing, and the distinct reactions of each individual involved reduced SPC Jacobs' shame as well as his anger toward some individuals. However, he observed that his guilt and his disgust toward some individuals did not decrease. Finally, with regard to the last event, by examining his intent (i.e., to save the child) SPC Jacobs' shame did decrease but his guilt and his anger did not.

Even with some meaningful change accomplished through these initial processing efforts, there remained some moral pain (e.g., guilt, disgust) for each event that was not amenable to change efforts. Adopting a social functional conceptualization of moral injury (see Farnsworth et al., 2017), the therapists expanded the processing scope. By moving away from efforts to change the content of SPC Jacobs' interpretations and toward changing his behavioral responding to his beliefs and feelings, acceptance of moral pain was incorporated into the discussion.

In the first trauma, after reducing undue self-blame by incorporating contextual details, the discussion shifted to self-forgiveness, grieving for his friend, and living a vital life for himself *and* his friend. SPC Jacobs shared that he and his friend shared many of the same values in the domains of family, community, and faith. Through this discussion, he concluded that by living out these values and sharing his memories of his friend with his loved ones, he could be

forgiven. Though earlier in processing shame was assuaged, SPC Jacobs related that he did not believe he “should” be rid of guilt, citing his violation of his value of “prioritizing loved ones.” Through discussion of how this guilt might motivate and mobilize him to behave in line with this value, SPC Jacobs grew his willingness to accept guilt in the service of reinvesting energy once spent suppressing guilt in values-based action. He poignantly wrote, “I will LIVE with guilt ... not live WITH GUILT.”

With regard to the second event, SPC Jacobs experienced anger, contempt, and disgust for the commander and other members of his team. Again, by incorporating previously omitted details from his recollection of the event, SPC Jacobs was able to relinquish anger toward certain soldiers who had not participated in the disrespectful banter about those killed. However, his reactions to others did not diminish. Thus, in overtly acknowledging the anger and disgust as appropriate emotions given the actions of the others and his own value of respecting human life, SPC Jacobs moved toward acceptance of these moral emotions. In exploring how he could forgive (i.e., “give what should have come before”) these individuals, he resolved to teach his own children the value of respecting human life and “... with hope for what they may yet have to offer the world, allow these soldiers to leave his life.” As SPC Jacobs had been transferred to another unit upon his return to the U.S., it was unlikely he would have further interaction with these soldiers. We concluded that exposure to these individuals was unlikely to diminish his moral emotional response to their behavior. Thus, we collaboratively understood this action not as avoidance of emotions but, instead, as the best way he could demonstrate his own respect. Of note, if he had remained in the same unit, we would likely have pursued other pathways to the extent possible, given the potential costs of disengaging from coworkers.

In relation to the final event (the death of the child he attempted to save), SPC Jacobs felt a wide range of negative moral emotions toward himself and others. Once again, cognitive change efforts (i.e., examining intent, acknowledging his own physical injuries) were beneficial in reducing some self-condemnation and shame. However, he continued to experience significant guilt as well as anger and contempt. He also expressed doubt in his “forgivability,” which he further concluded indicated his lack of worth as a person and his failure as a Christian. Rather than responding to our own inclinations to reassure him of his worth, the providers acknowledged our own limited certainty of forgivability and acknowledged how uncomfortable that felt to experience. One important discussion emphasized how moral emotions such as guilt appear to represent an intact moral compass, and he was open to considering this perspective. Of course, this did not conclusively eliminate uncertainty, with which he continued to struggle.

As such, discussion then explored how it might be “easier” for him to conclude that he is, in fact, unforgivable. Doing so would effectively absolve him of any need to make any sort of amends. The provider then inquired about how he would choose to live his life if he were unforgivable. Without hesitation, he described living actively in line with his values of caring, loving, kindness, and compassion. Then, he was prompted to describe how he would “give what should have come before” if, indeed, forgiveness was attainable. His answer was the same. From this place, discussion explored his willingness to sit with uncertainty or even doubt about his forgivability as well as with the guilt and other forms of moral pain in the service of redirecting his energy to living out these values. SPC Jacobs expressed a desire to make this his mission each day. In this way, when new learning did not (perhaps could not) yield changes in his beliefs, we sought to facilitate a new way of responding to thoughts and emotions that allowed for meaningful changes in life quality and functioning.

In sum, we first acknowledge the value of the procedures emphasized by previous authors emphasizing contextualization of events (Held et al., 2017; Smith et al., 2013). We also acknowledge the value of collaboratively elucidating mitigating factors such as dehumanization of the enemy via military training, difficulty accurately identifying the enemy, and/or social pressure to conform to unit norms. Moreover, even when contending with moral beliefs that may not be amendable to change, we believe it would be beneficial to prioritize change efforts in order to reduce unnecessary (i.e., based in misperception, misunderstanding) moral judgments and increase confidence that enduring cognitions have been carefully considered in the light of all the available evidence. However, there may be times when moral judgments and emotions are contextually appropriate based on the facts. There may also be times when—as in the case of SPC Jacobs—self-blame and guilt are not fully assuaged, even after carefully contextualizing his actions and intentions. In these cases, we advocate acceptance-based interventions and forward-oriented, forgiveness-based processing. With SPC Jacobs, we worked to increase openness to approaching the painful memories and emotions, in the service of learning about himself and how he wanted to interact with the people and world around him. We acknowledge that skilled cognitive-behavioral therapists target a range of learning processes beyond habituation and many already seek to facilitate these processes when delivering PE. Herein, we believe it important to note, as it is not overtly discussed in the PE manual (Foa et al., 2007) or PE training materials.

Recommendations for Processing in Session

- Use contextualizing, perspective taking, and other cognitive change strategies first to reduce undue shame, anger, etc., based on distorted perceptions of culpability, blameworthiness, etc.

- In cases of objective perpetration or when contextualizing does not fully ameliorate painful thoughts and emotions, shift guided inquiry and discussion toward acceptance of thoughts and emotions that are socially functional and/or are meaningful to the patient.

Outcomes

Outcomes of interest in this case extend beyond symptom change to include the soldier's responses to moral pain, his overall functioning, and his engagement with meaningful activities. As the parent study was designed to explore diagnosis-specific symptoms and functioning, no measures of moral injury as an outcome were included. However, there are now several measures of moral injury expressions/symptoms (Currier et al., 2018; Koenig et al., 2018) that should be included in future research of PE as an intervention for military-related trauma.

Symptoms that were measured before, during, and/or after treatment included PTSD and depression symptoms, and psychosocial functioning (Figure 1). On the PCL-5 (Weathers, Litz, et al., 2013), SPC Jacobs' symptoms maintained through the first two time points before spiking after Session 10. Symptom exacerbations of this sort are not uncommon in trauma-focused treatments and are not predictive of poor treatment outcomes (Larsen et al., 2016). In SPC Jacobs' case, he reported that, as he became more aware of the deep costs of avoidance related to his family and faith, his guilt and shame intensified, which was reflected in his PCL-5 score. This increase in painful moral emotions was acknowledged overtly as meaningful, as the providers and soldier acknowledged the suffering that arose out of avoidance of his moral pain. This then helped facilitate a shift in his treatment trajectory.

Subsequently, SPC Jacobs experienced a decrease in PTSD symptoms at the final treatment session and at the 1-month follow-up assessment, as evidenced by a modest but

significant reduction to below baseline scores on the PCL-5 and the CAPS-5 (Weathers, Blake, et al., 2013). Of note, his PCL-5 score decreased from posttreatment to the 1-month follow-up. In our experience in this IOP, there tends to be no change or an increase in symptoms between these two time points. At each of his treatment booster sessions, SPC Jacobs reported he was continuing to approach previously avoided situations, with emphasis on reengaging with friends and family, faith community, and volunteering, all of which likely enabled the ongoing process of moral healing. He noted these activities were still often distressing, but related, “I know this is the way out [of PTSD/moral injury] and I can tell that everyday I do it.”

Depression symptoms did not decrease significantly over the course of treatment as measured by the PHQ-9 (Kroenke et al., 2001). However, SPC Jacobs emphasized in a discussion of his progress that he began experiencing more positive emotions around Session 10 and that, while he continued to experience depressive symptoms, reconnecting with meaningful and pleasurable experiences gave him hope and a renewed sense of purpose and worth. It is worth noting that only one item on the PHQ-9 primarily assesses behavioral activation and most items address facets of the depressive experience that are perhaps unlikely to shift rapidly in the process of moral healing. On the B-IPF (Kleiman et al., 2018), a likely stronger indicator of enduring change, SPC Jacobs reported a significant increase in overall functioning and in every individual domain, with those related to family relationships increasing most.

With regard to SPC Jacobs’ self-report at the end of the 15-day treatment, he was “still hurting, but not struggling.” He emphasized two primary changes: his engagement in meaningful activities (e.g., playing with his children, engaging at church) and his revised perspective on moral pain. He observed that painful moral emotions such as guilt and remorse as well as anger and contempt were not in and of themselves problematic. He related a sense of gladness for

where these emotions had been successfully reduced. In addition, though, he indicated a newfound awareness that, rather than continuing to reject his feelings, avoid triggers of these feelings, and punish himself, he would be better served (as would the people for whom he cares) by redirecting his energy toward living out his values. As we do with each of the service members in this program, we regularly inquired, “What did you learn?” following sessions. In his last session, SPC Jacobs responded, “I can have hope. I have hurt, and I can also have hope.”

Conclusions

PE is a highly effective treatment for PTSD; however, treatment outcomes with military samples have been less robust than with civilians. We do not think that all service members who do not respond to PE fail to do so because they have moral injury. However, when present, moral injury may confound traditional PTSD conceptualizations and treatments. The available evidence-based therapies for moral healing have increased substantially over recent years and, yet, we acknowledge the history of posttraumatic recovery facilitated by PE. Thus, herein, we sought to highlight how PE—augmented by advances in understanding of moral injury—may be a potentially effective intervention for service members with PTSD and moral injury.

We had three primary objectives in reporting the case of SPC Jacobs. First, we provided an example of how traumatic events may also be morally injurious and how PTSD may co-present with moral injury. Different trauma types have been defined to include distinctive definitions of morally injurious events and life threat-based trauma (Litz et al., 2018). Despite these divergent definitions, an event can certainly be both morally injurious and life threatening. In these cases, we submit that it is not only important to assess and treat the distinct sequelae, it

is also important to explore the functions of specific symptoms (e.g., avoidance) to be able to tailor interventions appropriately and effectively.

Second, we highlighted the flexibility of PE to allow for the inclusion of the processes and procedures recently proposed as important for moral healing (e.g., forgiveness, acceptance). Likewise, we highlighted how updated conceptualizations of moral injury may be compatible with PE. Third, we provided practical guidance to PE providers working with service members or other populations that may be vulnerable to traumatic, morally injurious events. We believe SPC Jacobs' participation in the IOP-PE allowed for a unique opportunity to describe a range of PE procedures as well as theoretically informed augmentations to psychoeducation, in vivo, and imaginal components of the treatment.

As a single case, we cannot conclude from the outcome of PE with this soldier that PE will be effective for all service members experiencing moral injury. Moreover, at the 1-month follow-up, SPC Jacobs still met criteria for PTSD, though he had experienced significant reduction in PTSD symptoms and healing demonstrated via several other indices. Thus, while we cannot conclude these augmentations are sufficient to facilitate full recovery in the course of a couple months, it does appear that behavioral interventions and focus on life enrichment placed SPC Jacobs on a trajectory of recovery. Pending replication and evaluation of the individual treatment components described herein, we cannot determine the specific intervention(s) responsible for changes in symptoms and functioning.

Finally, while we described several augmentations of the traditional PE framework and procedures, all such changes remained rooted in the behavioral and emotional processing theories underpinning the treatment model. While we did draw from recent theoretical and applied research on moral injury to build our conceptualization and treatment plan, we consulted

regularly with PE experts to ensure fidelity to the treatment. Going forward, we hope this discussion will inform clinicians delivering PE who are seeking to promote moral healing in the still growing population of service members with moral injury.

References

- Blount, T. H., Cigrang, J. A., Foa, E. B., Ford, H. L., & Peterson, A. L. (2014). Intensive outpatient prolonged exposure for combat-related PTSD: A case study. *Cognitive and Behavioral Practice, 21*(1), 89–96. doi.org/10.1016/j.cbpra.2013.05.004
- Bradley, R., Greene, J., Russ, E., Dutra, L., & Westen, D. (2005). A multidimensional meta-analysis of psychotherapy for PTSD. *The American Journal of Psychiatry, 162*(2), 214–227. doi.org/10.1176/appi.ajp.162.2.214
- Bryan, C. J., Bryan, A. O., Anestis, M. D., Anestis, J. C., Green, B. A., Etienne, N., ... Ray-Sannerud, B. (2016). Measuring moral injury: Psychometric properties of the moral injury events scale in two military samples. *Assessment, 23*(5), 557–570. doi.org/10.1177/1073191115590855
- Bryan, C. J., Bryan, A. O., Roberge, E., Leifker, F. R., & Rozek, D. C. (2018). Moral injury, posttraumatic stress disorder, and suicidal behavior among National Guard personnel. *Psychological Trauma: Theory, Research, Practice, and Policy, 10*(1), 36–45. doi.org/10.1037/tra0000290
- Craske, M. G., Kircanski, K., Zelikowsky, M., Mystkowski, J., Chowdhury, N., & Baker, A. (2008). Optimizing inhibitory learning during exposure therapy. *Behaviour Research and Therapy, 46*(1), 5–27. doi.org/10.1016/j.brat.2007.10.003
- Currier, J. M., Farnsworth, J. K., Drescher, K. D., McDermott, R. C., Sims, B. M., & Albright, D. L. (2018). Development and evaluation of the Expressions of Moral Injury Scale-Military Version. *Clinical Psychology & Psychotherapy, 25*(3), 474–488. doi.org/10.1002/cpp.2170

- Evans, W. R., Stanley, M. A., Barrera, T. L., Exline, J. J., Pargament, K. I., & Teng, E. J. (2018). Morally injurious events and psychological distress among veterans: Examining the mediating role of religious and spiritual struggles. *Psychological Trauma: Theory, Research, Practice, and Policy*, 10(3), 360–367. doi.org/10.1037/tra0000347
- Farnsworth, J. K., Drescher, K. D., Evans, W.R., & Walser, R. D. (2017). A functional approach to understanding and treating military-related moral injury. *Journal of Contextual Behavioral Science*, 6(4), 391–397. doi.org/10.1016/j.jcbs.2017.07.003
- Foa, E. B., Hembree, E. A., & Rothbaum, B. O. (2007). *Prolonged exposure therapy for PTSD: Emotional processing of traumatic experiences: Therapist guide*. New York: Oxford University Press. doi.org/10.1093/med:psych/9780195308501.001.0001
- Foa, E. B., Huppert, J. D., & Cahill, S. P. (2006). Emotional Processing Theory: An Update. In B. O. Rothbaum (Ed.), *Pathological anxiety: Emotional processing in etiology and treatment*. (pp. 3–24). New York: The Guilford Press.
- Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin*, 99(1), 20–35. doi.org/10.1037/0033-2909.99.1.20
- Foa, E. B., McLean, C. P., Zang, Y., Rosenfield, D., Yadin, E., Yarvis, J. S., ... Peterson, A. L., for the STRONG STAR Consortium. (2018). Effect of prolonged exposure therapy delivered over 2 weeks vs 8 weeks vs present-centered therapy on PTSD symptom severity in military personnel: A randomized clinical trial. *JAMA: Journal of the American Medical Association*, 319(4), 354–364. doi.org/10.1001/jama.2017.21242
- Friedman, M. J., Keane, T. M., & Resick, P. A. (Eds.). (2007). *Handbook of PTSD: Science and practice*. New York: Guilford Press.

- Gray, M. J., Nash, W. P., & Litz, B. T. (2016). When self-blame is rational and appropriate: The limited utility of Socratic questioning in the context of moral injury: Commentary on Wachen et al (2016). *Cognitive and Behavioral Practice*, 24(4), 383–387. doi.org/10.1016/j.cbpra.2017.03.001
- Gray, M. J., Schorr, Y., Nash, W., Lebowitz, L., Amidon, A., Lansing, A., ... Litz, B. T. (2012). Adaptive disclosure: An open trial of a novel exposure-based intervention for service members with combat-related psychological stress injuries. *Behavior Therapy*, 43(2), 407–415. doi.org/10.1016/j.beth.2011.09.001
- Hall-Clark, B. N., Wright, E. C., Fina, B. A., Blount, T. H., Evans, W. R., Carreño, P. K., ... Foa, E. B., for the STRONG STAR Consortium. (2019). Military culture considerations in prolonged exposure therapy with active-duty military service members. *Cognitive and Behavioral Practice*. doi.org/10.1016/j.cbpra.2018.07.009
- Held, P., Klassen, B. J., Brennan, M. B., & Zalta, A. K. (2017). Using prolonged exposure and cognitive processing therapy to treat veterans with moral injury-based PTSD: Two case examples. *Cognitive and Behavioral Practice*, 25(3), 377-390. doi.org/10.1016/j.cbpra.2017.09.003
- Keltner, D., & Gross, J. J. (1999). Functional accounts of emotions. *Cognition & Emotion*, 13(5), 467-480.
- Kleiman, S. E., Bovin, M. J., Black, S. K., Rodriguez, P., Brown, L. G., Brown, M. E., ... & Marx, B. P. (2018). Psychometric properties of a brief measure of posttraumatic stress disorder-related impairment: The Brief Inventory of Psychosocial Functioning. *Psychological Services*, 17(2), 187-194. doi.org/10.1037/ser0000306

- Koenig, H. G., Ames, D., Youssef, N. A., Oliver, J. P., Volk, F., Teng, E. J., ... & Pearce, M. (2018). The moral injury symptom scale-military version. *Journal of Religion and Health*, 57(1), 249-265. doi.org/10.1007/s10943-017-0531-9
- Hofmann, S. G. (2008). Cognitive processes during fear acquisition and extinction in animals and humans: Implications for exposure therapy of anxiety disorders. *Clinical Psychology Review*, 28(2), 199–210. doi.org/10.1016/j.cpr.2007.04.009.
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9), 606-613.
- Larsen, S. E., Stirman, S. W., Smith, B. N., & Resick, P. A. (2016). Symptom exacerbations in trauma-focused treatments: Associations with treatment outcome and non-completion. *Behaviour Research and Therapy*, 77, 68-77. doi: 10.1016/j.brat.2015.12.009
- Litz, B. T., Contractor, A. A., Rhodes, C., Dondanville, K. A., Jordan, A. H., Resick, P. A., ... & Peterson, A. L., for the STRONG STAR Consortium. (2018). Distinct trauma types in military service members seeking treatment for posttraumatic stress disorder. *Journal of Traumatic Stress*, 31(2), 286-295. doi.org/10.1002/jts.22276
- Litz, B. T., Lebowitz, L., Gray, M. J., & Nash, W.P. (2016). *Adaptive disclosure: A new treatment for military trauma, loss, and moral injury*. Guilford Press.
- Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., & Maguen, S. (2009). Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. *Clinical Psychology Review*, 29(8), 695-706. doi.org/ 10.1016/j.cpr.2009.07.003
- Maguen, S., Burkman, K., Madden, E., Dinh, J., Bosch, J., Keyser, J., ... Neylan, T. C. (2017). Impact of killing in war: A randomized, controlled pilot trial. *Journal of Clinical Psychology*, 73(9), 997-1012. doi.org/ 10.1002/jclp.22471

- Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other variables: a meta-analytic review. *Journal of Consulting and Clinical Psychology, 68*(3), 438.
- Nash, W. P. (2007). Combat/operational stress adaptations and injuries. In C. R. Figley & W. P. Nash (Eds.), *Combat Stress Injury: Theory, Research, and Management*. New York: Routledge.
- Nieuwsma, J.A., Walser, R.D., Farnsworth, J.K., Drescher, K.D., Meador, K.G., & Nash, W. (2015). Possibilities within Acceptance and Commitment Therapy for approaching moral injury. *Current Psychiatry Reviews, 11*(3), 193-206.
doi.org/10.2174/1573400511666150629105234
- Paul, L. A., Gros, D. F., Strachan, M., Worsham, G., Foa, E. B., & Acierno, R. (2014). Prolonged exposure for guilt and shame in a veteran of Operation Iraqi Freedom. *American journal of psychotherapy, 68*(3), 277-286.
- Peterson, A. L., Foa, E. B., Blount, T. H., McLean, C. P., Shah, D. V., Young-McCaughan, S., ... Keane, T. M. for the Consortium to Alleviate PTSD. (2018). Intensive prolonged exposure therapy for combat-related posttraumatic stress disorder: Design and methodology of a randomized clinical trial. *Contemporary Clinical Trials, 72*, 126-136.
doi.org/10.1016/j.cct.2018.07.016
- Powers, M. B., Halpern, J. M., Ferenschak, M. P., Gillihan, S. J., & Foa, E. B. (2010). A meta-analytic review of prolonged exposure for posttraumatic stress disorder. *Clinical Psychology Review, 30*(6), 635-641. [doi.org 10.1016/j.cpr.2010.04.007](https://doi.org/10.1016/j.cpr.2010.04.007)
- Rauch, S., & Foa, E. (2006). Emotional processing theory (EPT) and exposure therapy for PTSD. *Journal of Contemporary Psychotherapy, 36*(2), 61.

- Rauch, S. A., Smith, E., Duax, J., & Tuerk, P. (2013). A data-driven perspective: Response to commentaries by Maguen and Burkman (2013) and Steenkamp et al.(2013). *Cognitive and Behavioral Practice*, 20(4), 480-484. doi.org/10.1016/j.cbpra.2013.07.002
- Smith, E. R., Duax, J. M., & Rauch, S. A. (2013). Perceived perpetration during traumatic events: Clinical suggestions from experts in prolonged exposure therapy. *Cognitive and Behavioral Practice*, 20(4), 461-470. doi.org/10.1016/j.cbpra.2012.12.002
- Steenkamp, M. M., Litz, B. T., Hoge, C. W., & Marmar, C. R. (2015). Psychotherapy for military-related PTSD: a review of randomized clinical trials. *JAMA*, 314(5), 489-500. doi.org/10.1001/jama.2015.8370
- Steenkamp, M. M., Nash, W. P., Lebowitz, L., & Litz, B. T. (2013). How best to treat deployment-related guilt and shame: Commentary on Smith, Duax, and Rauch (2013). *Cognitive and Behavioral Practice*, 20(4), 471-475. doi.org/10.1016/j.cbpra.2013.05.002
- Wachen, J. S., Dondanville, K. A., Pruiksma, K. E., Molino, A., Carson, C. S., Blankenship, A. E., ... & the STRONG STAR Consortium. (2016). Implementing cognitive processing therapy for posttraumatic stress disorder with active duty US military personnel: Special considerations and case examples. *Cognitive and Behavioral Practice*, 23(2), 133-147. doi.org/10.1016/j.cbpra.2015.08.007
- Wachen, J. S., Dondanville, K. A., & Resick, P. A. (2017). Correcting misperceptions about cognitive processing therapy to treat moral injury: A response to Gray and colleagues. *Cognitive and Behavioral Practice*, 24(4), 388-392. doi.org/10.1016/j.cbpra.2017.06.001

Weathers, F.W., Blake, D.D., Schnurr, P.P., Kaloupek, D.G., Marx, B.P., & Keane, T.M.

(2013). The Clinician-Administered PTSD Scale for DSM-5 (CAPS-5).

Weathers, F.W., Litz, B.T., Keane, T.M., Palmieri, P.A., Marx, B.P., & Schnurr, P.P. (2013).

The PTSD Checklist for DSM-5 (PCL-5).

Wisco, B. E., Marx, B. P., May, C. L., Martini, B., Krystal, J. H., Southwick, S. M., & Pietrzak,

R. H. (2017). Moral injury in US combat veterans: results from the national health and resilience in veterans study. *Depression and Anxiety*, 34(4), 340-347. doi.org/

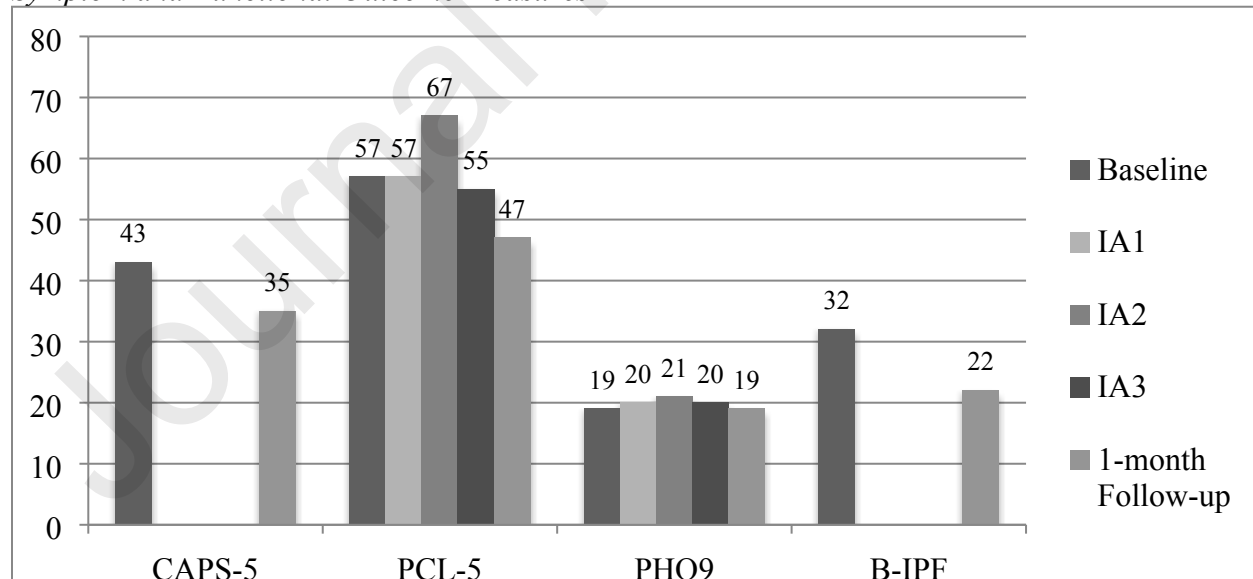
10.1002/da.22614

Table 1
Sample Items from Patient's in Vivo Hierarchy

Activity	SUDs Rating
Watching football on TV	30 [†]
Playing video games	30 [†]
Working out at home	30 [†]
Talking to brother on phone	30 ^{†+}
Talking to grandfather on phone	30 ^{†+}
Visiting grandfather's home	60 ^{†*+°}
Sitting with full congregation at church	70 ^{†*°}
Having friends over to his house	70 ^{†*°}
Food court on post	70 [*]
Local grocery store	75 [*]
Post Exchange	75 [*]
Walking around neighborhood with family	80 ^{†*}
Taking children to park off post	95 ^{†*°}
Movie theater with wife	95 ^{†*}
Going to a football game	100 ^{†*°}
Working out at gym	100 ^{†*}
Movie theater by self	100 [*]
Go to Chuck E. Cheese	>100 ^{†*°}

* Target included reduction of fear/anxiety; [†] Target included values-aligned behavioral activation; ⁺ Targeted included emotional expression; [°] Target included social engagement

Figure 1
Symptom and Functional Outcome Measures



Note. Interim assessment 1 (IA1) was conducted between sessions 5 and 6; Interim assessment 2 (IA2) was conducted between sessions 10 and 11; Interim assessment 3 (IA3) was conducted immediately prior to final session; CAPS-5 = Clinician Administered PTSD Scale for DSM-5; PCL-5 = PTSD Checklist for DSM-5; PHQ-9 = Patient Health Questionnaire-9; B-IPF = Brief Inventory of Psychosocial Functioning