Moral Injury in Military Operations

A review of the literature and key considerations for the Canadian Armed Forces

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Abstract

As the Canadian Armed Forces (CAF) regroup from its largest deployment since Korea and the longest combat deployment since the Second World War, emerging mental health data suggests that approximately 14% of CAF personnel who had been deployed to Afghanistan had a mental health disorder that was linked to the Afghan mission. This paper focuses on a particular psychological aftermath of military operations, that which may be associated with the moral and ethical challenges that personnel face in military missions. More specifically, in this paper I provide an introduction to the concept of *moral injury*, formally defined as the psychological anguish that can result from"[p]erpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations (Litz et al., 2014, p. 697). I begin with a brief overview of the essential role of morality and ethics in military operations. I then outline the historical development of the concept of moral injury, discuss its symptomatology, and outline the current approaches to treatment. I conclude by discussing a number of key considerations for the CAF in terms of a way ahead with respect to the issue of moral injury.

Significance to defence and security

Emerging empirical evidence confirms that military personnel confront a range of moral challenges in the course of military operations. How these operational moral challenges are processed can lead to moral injuries, which in turn, are associated with a wide range of damaging psychological, interpersonal, occupational and life threatening outcomes for military personnel. The information contained in this report is intended to support the CAF's duty of care obligation, by providing evidence to assist in the formation of policy and programme decisions to maintain and improve the health and well-being of the personnel sent into harm's way.

Résumé

Tandis que les Forces armées canadiennes (FAC) se remettent de leur plus important déploiement depuis la Corée et de leur plus longue mission de combat depuis la Seconde Guerre mondiale, de nouvelles données sur la santé mentale laissent croire qu'environ 14 % de l'ensemble du personnel des FAC qui a été déployé avait des troubles de santé mentale liés à la mission en Afghanistan. Ce document porte sur une conséquence psychologique particulière des opérations militaires qui peut être associée aux questions morales et éthiques auxquelles le personnel fait face au cours de missions militaires. Plus précisément, dans ce document, je présente le concept de *préjudice moral*, défini formellement comme la souffrance psychologique qui peut découler du fait de [*Traduction*] « commettre ou laisser commettre des actes qui transgressent des croyances et des attentes profondément ancrées, en être témoin ou apprendre qu'ils ont été commis » (Litz et coll., 2014, p. 697). Je commence par un aperçu général du rôle essentiel de la moralité et de l'éthique dans les opérations militaires. Je présente ensuite l'évolution historique du concept de préjudice moral, j'examine sa symptomatologie et je présente les approches actuelles de son traitement. Je conclus en abordant un certain nombre de facteurs clés pour les FAC en ce qui concerne la voie à suivre sur la question du préjudice moral.

Importance pour la défense et la sécurité

De nouvelles données empiriques confirment que le personnel est confronté à un grand éventail de questions morales au cours des opérations militaires. La manière dont ces questions morales sont abordées peut entraîner des préjudices moraux, lesquels sont associés à une vaste gamme de séquelles psychologiques, interpersonnelles, professionnelles et potentiellement mortelles pour le personnel militaire. L'information contenue dans ce rapport vise à appuyer l'obligation de diligence des FAC, en facilitant la prise de décisions relatives à l'élaboration de politiques et de programmes qui visent à maintenir et améliorer la santé et le bien-être du personnel envoyé dans des zones de danger.

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Acknowledgements

My sincere thanks go to all of the Canadian Armed Forces personnel who have shared their experiences with me over the years, and who have allowed me to begin to understand the moral and ethical challenges that they have dealt with on operations. None of my work in this area would have been possible without their candor in recounting these difficult situations.

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1 Introduction

As the Canadian Armed Forces (CAF) regroup from its largest deployment since Korea and the longest combat deployment since the Second World War, concerns about the health and well-being of its veterans have been raised (e.g., Paré, 2013). The emerging mental health data suggests that these concerns are warranted. A recent large-scale survey (Boulous & Zamorski, 2013) found that approximately 14% of the 30,513 CAF personnel who had deployed to Afghanistan had a mental health disorder such as Post-Traumatic Stress Disorder (PTSD) that was linked to the Afghan mission. That research also revealed that combat exposure, threat level of the mission area, being in the Canadian Army (the predominant service deployed to Afghanistan), and more junior rank levels were most predictive of mental health problems.

While advances in technology have significantly improved the physical survival rates of military personnel (e.g., Clark, Bair, Buckenmaier, Gironda, & Walker, 2007; Shay, 2011), the rates of psychological injuries have largely remained unchanged from those of previous conflicts (Gradus, 2014; Jones & Wessely, 2001; Shay, 2011). Perhaps this is because many of the fundamental psychological aspects of the nature of conflict have remained unchanged. Conflict involves a unique combination of stressors, including sleep deprivation, extreme temperatures, dehydration, primitive living conditions, time pressure, complexity, ambiguity, and of course fear and anger – all of which can conspire to rob the individual of the information, time and perspective to make considered decisions (Horne, 2004; Orasanu & Backer, 1996; Shay, 2011; Thompson & McCreary, 2006; Warner & Appenzeller, 2011).

Indeed, it seems that many recent conflicts actually involve additional psychological challenges for service personnel. Improvised explosive devices (IEDs) have become a ubiquitous feature of the modern battle space, as have insurgencies and asymmetric conflict with political/religious/social militants who readily engage in ethnic cleansing and other atrocities (Brock & Lettini, 2012; Kilner, 2005; Litz, Stein, Delaney, Lebowitz, Nash, Silva & Maguen, 2009; Thompson & Gignac, 2002). Consider this new reality:

> … troops now fight against an enemy that could be anyone and anywhere. Even a child or a pregnant woman can present a lethal danger, hiding a bomb or a grenade. No one is safe, but killing a civilian violates the code of conduct for war. (Brock & Lettini, 2012, p. 43; also see Williams, 2008).

These missions have also often entailed unprecedented levels of interaction between military personnel and local populations of very different cultural backgrounds than has been the case in the past (Thompson & Jetly, 2014; Warner & Appenzeller, 2011). Moreover, military personnel have increasingly been called upon to assume combat, humanitarian and stabilization roles, sometime almost simultaneously (Thompson & Gignac, 2002). Taken together these features increase the ambiguity and complexity of the decisions made and the actions taken. Even if one takes the position that these issues are not entirely new, recent conflict have brought more of these issues into play at the same time and much more prominently in the deployment experiences of a greater number of military personnel than ever before.

This paper focuses on one area of the complexity and ambiguity inherent in contemporary missions; that is, the moral and ethical dimension of military operations. More specifically, in this

report I provide an introduction to the concept of *moral injury*, a potential aftermath of the moral challenges encountered in military operations. Moral Injury is formally defined as the psychological anguish that can result from"[p]erpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations (Litz et al., 2009, p. 697). While the term is a relatively recent addition to discussions of the psychological surround of military missions (Dombo, Gray & Early, 2013), it is clear that moral injury is an experience that echoes throughout the history of armed conflict (Shay, 2002; Sherman, 2014).

1.1 Morality and military operations

Morals are the fundamental rules that we hold about what is good or bad, right or wrong, just or unjust, and often have implications for the well-being of others (De Cremer, 2009; Heekeren, Wartenburger, Schmidt, Prehn, Schwintowski, & Villringer 2005; Jones, 1991; Kagan, 2001; Velasuez & Rostankowski, 1985). Our moral foundation is important as it is a central basis of "our expectations about and understanding of ourselves, others and the world around us … [that is,] how things should work and how one should behave in the world" (Litz et al., 2009, p. 699). As such, morals are instrumental in our belief systems and behavioral sanctions regarding how we, and how others, should behave.

The profession of arms is profoundly moral in nature (Davenport, 1997; Robinson, 2009). That is, decisions concerning justice, fairness, and rightness are (and should be) implicated in virtually every action associated with military operations, from strategic-level governmental rationales about entering a conflict, through to many of the tactical actions of those individuals who a government deploys into an area of operations. As such, moral and ethical considerations are evident in international laws of armed conflict and just war theory (Walzer, 2006), and in mission-specific rules of engagement (Violations, 2005). In fact, the noted military ethicist Manuel Davenport (1997) declared that "the military has a unique obligation to be constrained by moral integrity and competence precisely because of their state-granted powers of ultimate destruction" (p. 3).

1.2 Operational Moral Challenges, Moral Violations and Psychological Conflict

My past research has documented the range of very difficult moral challenges that CAF personnel have confronted while deployed (Thompson & Gignac, 2002; Thompson, Thomson, & Adams, 2008; Thomson, Adams, & Sartori, 2006). These have included the need to balance force protection concerns versus civilian body recovery; responding to snipers; military exfiltration (exiting) of an area versus leaving civilian aid workers; deciding which civilians should be delivered to safe havens; use of force to protect innocent civilians while staying within existing and restrictive rules of engagement that limited such intervention – or indeed the frustration and helplessness of not being able to provide protection to innocent civilians due to restrictive rules of engagement. Other personnel have dealt with the exploitation of an extremely vulnerable sector of a civilian population who had previously been victimized by other soldiers; deploying unarmed United Nations Military Observer teams into high risk mission areas where there was a high probability of injury or death to a team member; and deciding whether and how to offer assistance and safe haven to refugees under conditions of severely limited resources and in the

midst of a genocide. The CAF personnel were both eloquent and affecting as they recounted their experiences:

> *"Nobody ever trained you to sit there in a compound and watch women and children being shot like animals … And sitting there you can do nothing about it … three of my friends killed themselves … [T]hat's got to be the worst thing that a human being can do. There you are, trained, you've got weapons in your hand, yet there is absolutely nothing you can do"* (Anonymous CAF respondent, Thompson & Gignac 2002, p. 235).

> *"I took a family one day to [a safe building] and about 36 hours later they were all dead … If I hadn't taken them to the [safe building] would they have lived? Hidden in a basement of a home … with roaming militia running around looking for them – you'll never know. … I am respecting the dignity of the people by trying to save their lives I think, I am obviously serving my country before I am serving myself, you know I think I am operating in accordance with the value and I am operating pretty ethically. But the result of the very ethical decision is that within 24 hours, 36 hours a family died … because I took them to a place that was a hell hole – but I had no other place to take them. …which way is better to die?"* (Anonymous CAF respondent, Thompson, Thomson, & Adams, 2008, p. 9).

> *"The decision was where do you go next? Whose life or whose village do you protect today? I found that hard. … you know 'where do you go today?' I think the difficult part was knowing that, if I went to this village today, the atrocities that are going to occur, the violence that was going to occur, will happen in those villages over there because they knew we weren't there. … One village that was in my area of responsibility (AOR) had a[n initial] population of 1150 people. So, it was a regular stop for me… but by the time I left that AOR three months later, it was down to 12 women… that's all that were left and most were killed. …"* (Anonymous CAF respondent, Thompson, Thomson & Adams, 2008, p. 9).

Importantly, while most of our respondents showed evidence of having come to terms with the event (e.g., "*… But I can look at myself in the mirror and say I did everything I could possibly do to protect those people…*" Anonymous CAF respondent, Thompson et al., 2008, p. 7), a minority continued to struggle with the experience. That is, their accounts contained evidence of disrupted assumptions about the world, other people, or themselves, as well as continued confusion or unresolved negative ruminations concerning the event: "*In spite of my values, I couldn't do anything. I thought when you have high values, nothing can happen to you. You're beyond all the shitty things that [were] happening on the ground. Maybe I was naïve. … Probably.*" (Anonymous CAF respondent, Thompson et al., 2008, p. 7).

Killing the enemy in combat is state-sanctioned, militarily justified and the focus of intense training. Nonetheless, research shows that it can be fraught with moral conflict and have significant psychological consequences for many soldiers (e.g., Grossman, 1995; Kilner, 2002; 2005; Kukla, Schlenger, Fairbank, Hough, Jordon, Marmar & Weiss, 1990; Maguen, Lucenko, Reger, Gahm, Litz, Seal, Knight, & Marmar, 2011). Moreover, this research also shows that these psychological costs increase when the moral sanctioning associated with the killing is lost.

In one of the clearest studies of this issue, McNair (2002) found a positive relationship between Post-Traumatic Stress Disorder (PTSD) severity among Vietnam veterans and aspects of killing during military operations (having killed or thought to have killed someone; being in a situation in which women, children or the elderly were killed, or a situation where a prisoner or a civilian was injured or killed). Importantly, those who killed in a manner that they reported was inconsistent with military ethics or in what would be considered to be atrocities also had more severe PSTD symptoms than those who had killed in accordance with the laws of armed conflict. These results could not be accounted for by level of combat exposure or negative response bias of the soldier – it was the act of killing and the manner in which it occurred that accounted for severity of the PSTD symptoms. Maguen and colleagues (Maguen et al., 2011) also found a relationship among American Iraqi veterans' self-reports of having killed in combat, post-deployment screening mental health indicators, and suicidal ideation. Specifically, that research indicated that the relationship between killing in combat and post-deployment suicidal ideation was mediated by post-deployment depression, while PTSD symptoms mediated the relationship between killing and current desire for self-harm. Overall then, it seems clear that there are a variety of operational experiences across the spectrum of military missions that can result in subsequent long-term anguish and psychological struggles for at least some military personnel.

It is also the case that despite (or perhaps because of) the ubiquitous nature of morality in military operations, the intense and largely unique stresses of combat mean that at least in some cases:

> … exposure to threats and losses, especially in guerilla wars of insurgency, can motivate service members to act unnecessarily and inappropriately aggressive (with identified enemy or civilian noncombatants) and violate rules of engagement. In the most extreme case, these behaviors entail atrocities. (Drescher, Foy, Kelly, Leshner, Schutz & Litz, 2011, p. 8-9)

Most thankfully, reports of these kinds of immoral behavior (e.g., Allison, 2012; Banks, 2012; Government of Canada, 1997; Morris, 2006; Rayment, 2011; Santow, 2011; Schlesinger, Fowler, & Horner, 2004; Smee, 2006), while abhorrent and deserving of condemnation, still remain rare (Bartone, 2008; Warner, Appenzeller, Mobbs, Parker, Warner, Grieger & Hoge, 2011). Although understanding such behavior is critical, a focus only on atrocities also belies my research that has begun to document the range of moral challenges that military personnel routinely confront, and the number of times that military personnel do the right thing in the face of enormous stress and danger.

2 Moral Injury

Post-deployment psychological adjustment research has typically focused on the important issue of Post-Traumatic Stress Disorder (PTSD, e.g., Clancy, Greybeal, Tompson, Badgett, Feldman, Calhoun, Erkanli, Hertzberg & Beckham, 2006; Friedman, Schnurr, & McDonagh-Coyle, 1994). Yet Jonathan Shay (2002, 2011), a United States Department of Veterans Affairs staff psychiatrist with 20 years of experience working with Vietnam veterans, became aware that the struggles of many of his patients were not exemplified exclusively by the fear-or terror-based trauma that is the traditional basis of a PTSD diagnosis (see also Gray, Schorr, Nash, Lebowitz, Amidon, Lansing, Maglione, Lang & Litz, 2012; Kruger, 2014; Maguen & Burkman, 2013). Rather, the narratives of some of his patients were characterized by feelings of profound betrayal by their military commanders.

According to Shay, these feelings of betrayal were associated with instances in which the veterans felt that their military commanders or government leaders had lied to them, for instance about the rationale for, or the justifiability of a conflict in which they were engaged, or when soldiers had moral objections to their commander's unlawful orders. He termed this experience 'moral injury' which he defined as a soldier's intense psychological conflict resulting from the "betrayal of 'what's right' in a high stakes situation by someone who holds power …" (Shay, 2002, as cited in Shay, 2011, p. 183). Shay argued that these feelings of betrayal could surface during or soon after the betrayal, but could also surface years after the event(s) took place. Subsequent empirical research by Stein, Mills, Arditte, Mendoza, Borah, Resnick, Litz, et al. (2012) also supports Shay's clinical experience, in fact finding that moral injuries are more strongly associated with delayed- than immediate-onset traumatic reactions.

While Shay's insights were based on the experience of Vietnam veterans, other accounts have detailed how these same feelings of betrayal have been evident in more recent operations. For instance, Sherman (2014) recounts the story of a United States Army major, who "[o]nce Baghdad fell in 2003, … found himself deep in softer and more cultural methods of warfare, often inadequately supported and unclear of the cause or mission. He often felt betrayed by his command, and as a result, he, in turn, was forced to betray [the civilians] who counted on him" (p. 218). Similarly, in Rwanada General Romeo Dallaire and Major Brent Beardsley (e.g., Dallaire, 2000; Dallaire & Beardsley, 2003; Beardsley, 2008) recalled that although the United Nations (UN) ground troops communicated the rapidly developing nature of the danger to civilians in the mission area, they felt largely ignored and abandoned by their UN masters. Although this is perhaps the most well-known incident involving the CAF, other research has detailed that at least one other senior CAF officer indicated that he was prepared to resign from leading an international mission because of the lack of responsiveness from international political masters (Thomson, Adams, & Sartori, 2006). Nor are such findings limited to the CAF. For instance, in one study of the Israeli Defense Force, one-fifth of the reservists who had served in the occupied territories reported that they had moral objections to orders that they were given (Ritov & Barnetz, 2014).

Litz and colleagues (Litz, Stein, Delaney, Lebowitz, Nash, Silva, & Maguen, 2009; see also Drescher et al., 2011; Nash & Litz, 2013) have expanded the conceptualization of moral injury beyond the strict notion of betrayal by a commander or someone else in power. They define moral injury as psychological conflict resulting from perpetrating, failing to intervene in, or witnessing

acts that betray an individual's core moral beliefs. Nancy Sherman, the first Distinguished Chair in Ethics at the United States Naval Academy, similarly describes moral injury as resulting when "a soldier is holding onto incidents where they feel they've somehow transgressed, where they omitted to do more. This can be something that a soldier did or didn't do, and even something over which he or she had no control" (see Boserio, 2013).

Certainly this wider definition is supported by the research on perpetration-induced trauma (McNair, 2002) cited earlier in this report. However, this expanded definition is also supported by other research that demonstrated that the deployment narratives of a sample of military veterans who sought mental health treatment could be reliably assigned to one of three general categories of moral injury: Transgressions-Self, Transgressions-Other and Betrayal-Other (Bryan, Bryan, Morrow, Etienne, & Ray-Sannerud, 2014; see also Stein et al., 2012). Shay (2014) too has embraced this addition to the concept and now refers to two sources of moral injury: moral betrayal by a person in power and committing or witnessing a violation to one's moral code.

Whether a moral transgression is the result of one's own actions or omissions, or those of others, it is not the event itself that appears to be crucial to the etiology of moral injury. Rather, it is the extent to which the person makes sense of the event and its associated actions (or lack of actions) that is key (Litz et al., 2009; Shay, 2002, 2011; see also Bryan et al., 2014). That is, can the person create any reasonable causal explanation for the event at all? Should such a rationale be out of reach, the person may devote an inordinate amount of energy in trying to understand, make sense of, and derive meaning regarding the event. This experience will be among the first indications that one's moral standards have been betrayed or violated and opens the potential for moral injury to occur. When such understanding continues to remain elusive, the military member may engage in activities to try to avoid the psychological conflict triggered when the event comes to mind. Yet, because of the unanswered questions, the event will continue to intrude, beginning what often becomes an increasingly frantic cycle of avoidance behaviors, maladaptive coping and further intrusion.

The nature of the causal explanations that the person makes for the event is also critical to the experience of moral injury. In particular, should the person come to believe that the causes of the event are global, rather than specific, or due to internal, personal or human characteristics rather than due to the situation, and therefore unlikely to change in the future, the impact of the moral injury will be more intense and intractable (Litz et al., 2009). Once such beliefs becomes entrenched, "an individual with moral injury may begin to view him or herself as immoral, irredeemable, and un-reparable [if they are the perpetrator] or believe that he or she lives in an immoral world [if they are a witness]" (Litz et al., 2009, p. 698). Indeed, where behavior engaged in or witnessed runs "counter to one's moral compass [to a sufficient extent,] it can be evaluated as a threat to the integrity of one's internal moral schema" (Dombo et al., 2013, p. 200), leading to "crises of conscience … or spirit" (Brock & Lettini, 2012, p. 51). Moreover, such crises can have such a profound effect that the person feels that the event is not only damaging, but has changed their "self-identity" (Dombo et al., 2013, p. 202) or their world view. Thus "… a moral injury is able to destroy a soldier's deeply held personal beliefs about right and wrong. It can disrupt an individual's confidence about his or her own moral behaviour or others' capacity to behave in a just and ethical manner" (Boserio, 2013).

2.1 The Aftermath of Moral Injury: Symptoms, Vulnerability and Protective Factors

Not surprisingly, the effects of severe violations of one's basic beliefs concerning what is right, just and fair involve an array of intense emotional, cognitive and even physical reactions (Litz et al., 2009; Shay, 2009, 2011; Stein et al., 2012; Steenkamp, Nash, Lebowitz, & Litz, 2013). For instance, as noted earlier, Litz and colleagues (2009) have indicated that one of the most common symptom of moral injuries is the alternation between intrusive thoughts and intense negative emotions – and increasingly frantic efforts to avoid same. Shay (2011) goes so far as to liken moral injury, and indeed all psychological injury, to the etiology of physical injury. As such, he argues that it is not the initial event that kills soldiers. "[R]ather it is the complications that arise as they desperately try to manage the aftermath of the initial event, usually with strategies that are maladaptive, dangerous, and even lethal" (Shay, 2009, p. 292). Litz and colleagues agree, listing a variety of chronic collateral manifestations including:

> … self-harming behaviors, such as poor self-care, alcohol and drug abuse, severe recklessness, and parasuicidal behavior, self-handicapping behaviors, such as retreating in the face of success or good feelings, and demoralization, which may entail confusion, bewilderment, futility, hopelessness, and self-loathing. Most damaging is the possibility of enduring changes in self and other beliefs that reflect regressive over-accommodation of moral violation, culpability, or expectations of injustice. This may occur because each re-experiencing and avoidance instance leads to new learning affecting the strength and accessibility of underlying schemas, which, over time, become ingrained and rigid and resistant to countervailing evidence. (Litz et al., 2009, p. 701).

Others have similarly concluded that moral injuries are associated with a range of social problems, spiritual/existential issues, risk-taking and emotional distress (Drescher et al., 2011; Shay, 2009; see also Stein et al., 2012). Moral injuries have also been associated with more severe suicidal ideation and a greater number of suicide attempts (Bryan et al., 2014; McNair, 2002). The type and intensity of negative emotions associated with moral injury can lead a person to withdraw, not just from their usual social support systems, but can also make them reluctant to seek out clinical help (Charuvastra and Cloitre, 2008). Indeed, part of their reluctance to seek support may be due to the fact that "veterans may feel that, because they were trained to kill, the aftermath of killing should not bother them" (Maguen & Burkman, 2013, p.477).

With their focus on moral injury as a result of betrayal by those in power, it is not surprising that Shay (2009) and others (e.g., Stein et al., 2012) have suggested that a significant effect of moral injury, and of what causes the other symptoms and behavioral problems, is that it profoundly disrupts the ability to trust. Accordingly, what remains in its place is "the active expectancy of harm, exploitation, or humiliation from every person or institution that they encounter" (Shay, 2009, p. 289) Thus, "… in order to protect themselves from future harm, moral injury can cause a veteran to invoke at least one of three maladaptive ways of coping: striking out, retreating and thus becoming isolated, or developing "effective deception and concealment" strategies (Shay, 2011, p. 184). While such behavioral strategies may reduce symptomology temporarily, they are usually extremely destructive in the long run. Importantly, they also preclude the possibility of engaging in activities and being open to experiences that might tend to disprove this maladaptive view of oneself and/or the world.

The majority of moral injury research has focused on the symptoms reported by military veterans who have sought psychological treatment. However, Shay contends that this profound lack of trust may also significantly impact the job attitudes and behaviors of serving personnel: "The consequences for those still on active duty range from a loss of motivation and enjoyment, resulting in attrition from the service at the next available moment, to passive obstructionism, goldbricking, and petty theft, to outright desertion, sabotage, fragging, or treason. In war, the results are catastrophic" (Shay, 2011, p. 183).

Shay (2009) further contends that moral injury has a physiological component. "[I]t's a kick in the stomach … [It] is coded by the body as a physical attack…" (p. 294) "and [the body] reacts with the same massive mobilization" (Shay, 2011, p. 186). Although not documented concerning moral injury per se, this thinking is at least consistent with other post-deployment adjustment research. For instance, Hoge, Terhakopian, Castro, Messer, and Engel, (2007) have demonstrated a link between PTSD and a range of physical symptoms, symptoms that are more severe, as well as more health care visits and lower ratings of general health.

The literature to date is extremely limited in terms of factors that might predispose or protect one from experiencing moral injuries. Nonetheless, Litz et al. (2009) have suggested that individual differences such as neuroticism and/or a predisposition toward feeling shame could make one more vulnerable to experiencing moral injury. Conversely, they note that factors such as a belief in a just world (see Lerner, 1980) and high self-esteem are likely protective factors, as they are less likely to provoke negative, personal and global attributions for negative behaviors. Similarly, psychological hardiness has been demonstrated to be a general protective factor in military contexts (see Bartone, 1999) and may well function in a similar manner with respect to moral injury.

2.2 Guilt and Shame in Moral Injury

A consistent theme in moral injury theory and research is its fundamental connection to feelings of guilt and shame, as opposed to the fear and horror that are the hallmarks of traditional definitions of PTSD (Dombo et al., 2013; Litz et al., 2009; Shay, 2009, 2011, 2014; Steenkamp et al., 2013). Both guilt and shame fall into the realm of moral emotions, a class of emotions that that is associated with and/or occur as a result of moral events (Haidt, 2003; Tagney, Stuewig, & Mashek, 2007), and in particular with moral transgressions (Sheikh & Janoff-Bulman, 2010). Indeed, it is the intense emotional fallout associated with these two emotions that Litz and colleagues (2009) contend is chiefly responsible for maladaptive coping strategies. As noted earlier, although palliative in the short run, attempts to avoid feelings of guilt and shame are doomed to failure in the long run, as people continue to engage in maladaptive coping that actually entrenches or reinforces their beliefs and precludes them from exposure to any disconfirming evidence.

Although the terms are often used interchangeably, there is evidence that guilt and shame may be distinct in important ways (Litz et al., 2009; Shay, 2002, 2009, 2011; Sheikh & Janoff-Bulman, 2010), including in terms of behavioral systems (see Carver & Scheier, 2008; Carver & White, 1994) and, by extension even in terms of neural substrates activated (Davidson, 1998; Davidson, Ekman, Saron, Senulis, & Friesen, 1990; Sutton & Davidson, 1997). Specifically, research shows that guilt is associated with the Behavioral Activation System (BAS, Carver & Scheier, 2008),

and thus on taking action. Guilt is also sensitive to positive outcomes such as rewards, goals and incentives. Thus there is a focus on what should be done, termed prescriptive regulation (see Sheikh & Janoff-Bulman, 2010). Taken together, this means that in the case of guilt, the person is more motivated to take corrective or remedial actions, essentially seeking to make amends for prior moral transgressions. Because such atonement can lead to positive outcomes, a history of subsequent good works can work to mitigate at least some of the guilt feelings associated with a prior transgression, at least some of the time (Litz et al., 2009; see also Sherman, 2014).

The etiology of shame differs from that of guilt. For instance, shame is associated with the Behavioral Inhibition System (BIS, Carver & Scheier, 2008), is linked to avoidance motivations, sensitive to negative outcomes and punishments, and exhibits a focus on restraining behaviors, that is, what should not be done (Sheikh & Janoff-Bulman, 2010), termed proscriptive regulation. Moreover, shame is considered to be a more profound experience than guilt; it is associated with self-evaluations that leave the person feeling that they are deficient in some important way and thus unworthy as a person. Thus, the person interprets their transgression as having permanently damaged their "moral compass … [and] irreparably changed the violator's self-identity" (Dombo et al, 2013, p. 202) or perhaps indicative of their true self. Shame, then, is "the agony of … inner judgement … against" oneself (Brock & Lettini, 2012, p. xiv). As Dombo et al. (2013) put it, the distinction is that with guilt, people acknowledge (and feel guilt) that their behavior was bad, but with shame, the person sees him or herself as bad. This distinction ties back to the destructive aspects of the nature of the attributions that the moral transgressor makes. Thus, while negative internal attributions are common to both guilt and shame, are problematic and can be associated with maladaptive coping responses, the aetiology will be even more intractable and destructive with the addition of the global attributions associated with shame – and may also be associated with self-directed disgust and anger. In particular, part of the reason that shame is associated with overwhelming urges to retreat is due to the person`s belief that they would be and should be shunned. Complicating matters, this belief may actually be realistic depending on the nature of the moral transgression (Charuvastra & Cloitre, 2008). In any event, this belief leaves the individual increasingly isolated. This isolation, in turn, leads to more entrenched negative, internal, stable and global attributions about oneself that are tied directly to withdrawal and behavioral inhibition, leading to further isolation and so on (Litz et al., 2009). Figure 1 summarizes and depicts the hypothesized causal framework for the negative feedback spiral that can characterize unsolved moral injuries (Litz et al., 2009).

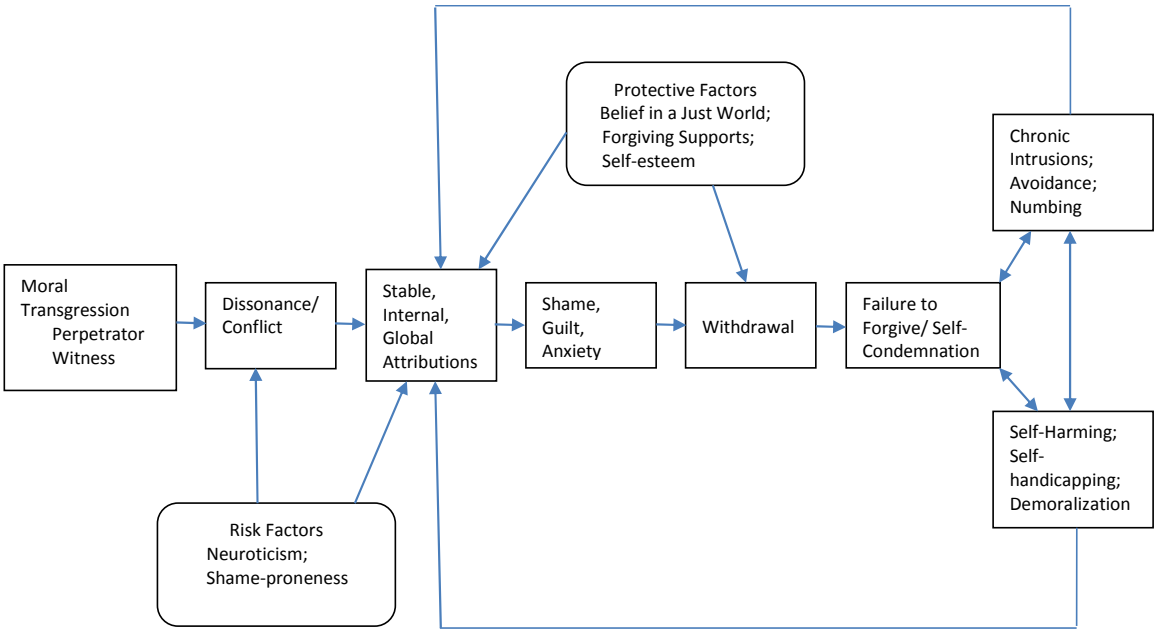

Figure 1: *The Causal Framework for Moral Injury (Litz et al., 2009)*[1].

2.3 Intervention Approaches

Discussions concerning moral injury are relatively recent. Thus, it is perhaps not surprising that there are differences in opinion concerning the most effective treatment strategies in clinical settings. The three current major treatment approaches are Prolonged Exposure (PE - Powers, Halpern, Ferenschak, Gillihan, & Foa, 2010), Adaptive Disclosure (AD - Steenkamp, Litz, Gray, Lebowitz, Nash, Conoscenti, Amidon, & Lang, 2011; Steenkamp et al., 2013) and peer support (Shay, 2009). It is beyond the scope of the current report to explore these approaches in depth, nor, in the absence of randomized control trials, to provide a conclusion concerning a recommended treatment approach. Rather, in the next section, I provide a brief overview of each approach.

2.3.1 Prolonged Exposure (PE)

Prolonged Exposure (PE) is a treatment approach that has been adopted directly from the clinical treatment approach for fear-based PTSD. As such, it centers on the tendency of sufferers to have traumatic and intrusive memories and to use maladaptive coping strategies to try to avoid the intrusive memories (Powers et al., 2010). PE seeks to constructively address the trauma by establishing a safe and trusting therapeutic environment that is tailored and flexible to the needs of each individual. Also referred to as flooding (Pitman, Altman, Greenwald, Longpre, Macklin, Poire, & Steketee, 1991), the key component is imaginal exposure (IE) in which, under the therapist's guidance, the patient will deliberately and repeatedly recall the event out loud (Hembree, Rauch, & Foa, 2003). Where possible and appropriate the approach also advocates in vivo exposure which is the more direct exposure to and confrontation with reminders of the

[1] Figure reproduced with permission.

trauma. Both types of exposure are thought to allow the individual to stop their avoidance behaviors, and to begin to more thoroughly process the memory. Three core processes are thought to be engaged in PE (Steenkamp et al., 2013). First, habituation occurs as repeated telling of the event leads to lessened physiological arousal that is associated with memories of the event. Second, extinction, in which conditioned responses of fear to a variety of current event cues are eliminated or reduced, occurs. This teaches clients that their fear and arousal can be modified and are under their control. Third, the repeated telling of the event allows the patient to contextualize it, and to develop a new narrative that will dispel maladaptive beliefs and inject corrective information concerning the event. In addition, the overall process of more "successful handling of distressing situations and memories that is the basis of PE is powerfully reinforcing and promotes a sense of competence" (Hembree et al., 2003, p. 24).

Other researchers have raised concerns regarding the appropriateness of PE for treating moral injury, however. In particular, Steenkamp et al., (2013) argue that PE is predicated on the assumption that the intensity of shame or guilt reactions associated with moral injury will respond in a manner identical to that of fear-based PTSD, essentially lessening and finally extinguishing based upon repeated exposure to and retelling of the incident. Yet, Steenkamp and colleagues (2013) point out that this is an assumption that has not been tested empirically. Moreover, they contend that a key premise of PE is that cognitive distortions concerning personal responsibility for the event are the basis of maladaptive reactions and coping strategies. However, in at least some cases, the veteran may actually be culpable, at least to some extent in the moral transgression. In these cases, their reactions may well not be based on cognitive distortions, but rather are accurate. Steenkamp et al. suggest that this would reduce the expected appropriateness and effectiveness of PE in these cases.

Moreover, a survey of therapists who were working with PTSD clients and were trained in imaginal exposure (IE), the foundational piece of PE, indicated that one third never used PE in their practice and 50% of a separate sample indicated that they used PE with less than half of their clients (Becker, Zayfert, & Anderson, 2004). Perceived barriers to the use of IE as a treatment approach included the belief that IE would increase suicidal symptoms and substance abuse and would decrease motivation to continue therapy. Hembree et al. (2003) pointed out that these results were particularly disappointing in that, to date, a meta-analysis of the empirical research on IE did not reveal a subsequent increase in these symptoms (e.g., Powers et al., 2010).

2.3.2 Adaptive Disclosure

In response to their concerns with respect to PE, Steenkamp and colleagues (2011, 2013) developed Adaptive Disclosure (AD) as an alternative clinical intervention approach, arguing that it is more appropriate to the range of events that can result in moral injury. Accordingly, AD is a brief, targeted intervention specific to "moral injury and traumatic loss and includes exposure, cognitive and gestalt techniques" (p. 474). While AD utilizes imaginal exposure and post-exposure dialogue, it does not rely on repeated retelling of the event as the main mechanism to extinguish destructive affect, as is the case in PE. Rather, a key technique of AD is the reliance on a guided empty chair technique in which the patient envisions a discussion of the event with a respected, trusted other. The goals of the discussion are to admit to the event and, if applicable, their culpability in the moral transgression. The client then role plays how this valued other will react and the guidance for moving forward that they would advise.

> The assumption is that any accepting, compassionate, and caring moral authority, while possibly disturbed by and critical of the morally injurious event, will not be damning, but rather compassionate and eager to encourage the service member to make amends, not be consumed by the experience, and to accommodate ideas about also being good or doing good. (Steenkamp et al., 2013, p. 474).

AD is also conceived of as a more directive form of intervention than PE, in that AD therapists may actively intervene to assist the client with formulating the new narrative of the experience.

Moreover, AD specifically emphasizes homework strategies that are devoted to making amends and atoning for their actions. Patients also are encouraged to create a long-term plan to put these plans into action. This approach is to assist them in rebuilding a moral self-image moving forward, despite their past behavior. The thinking is that focusing on future good works will remind and reinforce the client that they are or can be a good person, provide a plan to be a good person, and provide evidence that they need not be solely defined by a past transgression, thereby assuaging their guilt and shame, at least to some extent. The specifics of the intervention process are detailed in a case study in Steenkamp et al. (2011).

Results of a pilot study of AD have yielded promising results. In this study 44 United States Marines (see Gray et al., 2012) attended six 90-minute weekly AD sessions. Patients' satisfaction scores at the conclusion of the treatment were high and there were significant decreases in PTSD and depression scores among these veterans. Interestingly however, given the centrality of guilt and shame in moral injury, especially the types of moral injury that are thought to be most appropriate to AD as opposed to PE, the authors did not report effect sizes for changes with respect to feelings of guilt and shame associated with AD therapy.

2.3.3 Impact of Killing in War (IOK)

The Impact of Killing in War (IOK, Maguen & Litz, 2014) is a further novel, although admittedly still experimental, treatment to be used in conjunction with existing effective clinical treatments for PTSD for veterans who are suffering from moral injury. A six-session course, IOK presents several lessons or elements within a cognitive behavioral framework. Accordingly, this approach includes: 1) an educational component concerning the relationships among the biological, psychological and social aspects of killing in war, and how this constellation of relationships may contribute to inner conflict and potential moral injury; 2) the identification of meaning elements and cognitive attributions related to killing in war; 3) the introduction of the notion of self-forgiveness; and 4) the individual developing and where possible beginning to action a plan to make amends that are linked to their specific experience.

2.3.4 Peer Support Groups

Shay (2011) is a leading advocate for the essential role of the peer support of other veterans as the central mechanism for recovery in moral injury intervention. He equates this to the protective benefits of cohesion among military teams and units, going so far as to argue that "[c]redentialed mental health professionals, myself included, have no business taking centre stage in the drama of recovery for moral injury. We can be stagehands and bit players, but the real stars are the veterans who have walked in their shoes" (Shay 2011, p. 185). What is required is "a stable, trustworthy and safe community of other veterans that supports their safety, sobriety and self-care ….

Recovery only happens in community" (Shay, 2009, p. 289). Nonetheless, Shay is also quick to emphasize that the unguided peer groups are not an automatic panacea. He cautions that the clinician must remain vigilant concerning the nature and quality of the cohesion formed so that the peer group remains focused on the sobriety, safety and self-care of the participants and that the cohesion that develops is not subverted into criminal or dysfunctional behaviors.

2.3.5 Guilt and Shame as Evidence of the Soldier`s Ethical Core

Some researchers (Dombo et al., 2013; Litz et al., 2009) offer a further insight that may also be a valuable clinical tool (although perhaps not a stand-alone treatment approach) with respect to moral injury. Specifically, the mental health care provider themselves needs to recognize, and to communicate to the client, that the intense pain and suffering associated with moral injuries can only be experienced by individuals who have strong ethical values and the capacity for empathy. These authors suggest that is this very capacity that needs to be highlighted to the person. Thus, these feelings are to be used as evidence of the person's continued capacity for goodness and for doing what is right in the future, while acknowledging that the person's past behavior in the specific situation was not in keeping with their moral character. Consistent with the earlier discussion concerning the beliefs characteristic of shame versus guilt, this approach has the potential of moving the types of attributions the veteran makes from the global, internal and stable attributions about themselves that are more likely to be associated with shame, to feelings of guilt that, with appropriate intervention and opportunities, can be associated with future good works that in turn can assuage at least some of the damaging emotional effects of moral injuries.

2.4 Prevention

Currently, Shay is the only one of the moral injury theorists and researchers who explicitly addresses how moral injury may be prevented. He states: "[t]hree things protect the mind and spirit of the people we send into a fight and those three things are cohesion, leadership, and training: do what will improve cohesion, leadership, and training and avoid things that wreck them" (Shay, 2009, p. 287). Lessons from Vietnam underscored the importance of keeping units together as they train, when they deploy and after they return home. However, his main focus for the prevention of the complications of moral trauma "is by functionally expert, ethical, and properly supported leadership at all levels" (Shay, 2009, p.292).

Although Shay did not detail a specific plan about how this is to be accomplished, others support the important role of leadership. Quillen (2015) states that "Army unit leaders develop an organizational climate that may or may not emphasize Army values. Climate, subject to change based upon the unit's current leaders, is the basic attitude and daily functioning of unit members…. When a unit's climate is not congruent with Army values and the member's personal values, then a Soldier is strongly susceptible to moral injury" (p. 1). For Quillen, leaders who establish a positive and "consistent ethical climate will set the tone for a long term healthy unit culture" (p. 2). To do so, leaders must always be vigilant and "assess and identify moral issues, establish clear goals and set the unit on the right path" (p. 2). Moreover, leaders must be proactive in addressing active or passive attitudinal or behavior deviations from moral standards. Their failure to do so can be interpreted as their implicit approval of same, and leave their troops vulnerable to injury.

Kilner (2002) similarly argues that military leaders have a responsibility and obligation to their troops not just to teach them how to kill effectively but also to explain the morality of killing in combat because failing to do so may leave their troops vulnerable to post-combat psychological distress, including moral injury. Kilner further argues that this is the case because modern warfare is more morally ambiguous than ever before, occurring as it does in urban centres, often amongst civilians and far removed from the immediate guidance of commanders. In addition, Kilner also begins to outline what he sees as the key messages that should be communicated in military training to establish the moral rationale for killing in combat. According to Kilner, four conditions must be met to ensure that killing in combat is morally justified. It must be the result of a conscious choice, there must be a threat to human life or a comparable value, there must be an imminent threat, and there must be no other, nonlethal way to respond. He further suggests that soldiers' combat training must include understanding these conditions. He argues that this knowledge would reduce the subsequent incidence of moral injury but also increase operational effectiveness in modern conflicts.

Empirical research from the United States military supports these views concerning the important role of leadership in maintaining ethical behavior during operations. First, Castro and McGurk (2007) found a link between the attitudes and behaviors of soldiers and assessments of leadership. They surveyed the ethical attitudes and self-reported behaviors of American soldiers and Marines deployed to Iraq and Afghanistan soldiers. Those soldiers and Marines who reported poorer levels of leadership were also less likely to follow rules of engagement (see also MHAT IV, 2006). Similarly, Warner and Appenzeller (2011) concluded that engaged leaders are essential to set and to maintain the cultural norms within their unit, including those regarding battlefield ethics. This is one of the central premises of their in-theatre Battlefield Ethics Program that involved carefully selected movie clips and focused discussions by trained first-line supervisors with their direct subordinates, who in turn trained their own subordinates and so on. Just as importantly, their research suggests the effectiveness of their overall approach to battlefield ethics training. The soldiers who completed the training reported fewer unethical attitudes and actions, a greater willingness to report the unethical actions and to intervene in the misconduct of others, and a better understanding of how to treat non-combatants (Warner et al., 2011).

Other research has explored the effect of unit leadership on the moral and pro-social behavior of military subordinates in the context of a four-month training course (Hannah, Avolio, & Walumbwa, 2011). The researchers initially collected subordinate ratings of unit leaders. They then asked peers of the subordinates to assess the moral and pro-social behavior of the unit subordinates who had made the initial leader ratings. Their results demonstrated that peers who rated other subordinates as evidencing more moral and prosocial behaviors at Time 2 had unit leaders who were rated by the subordinates at Time 1 as being guided by internal moral standards (vice external pressure), aware of their impact on others, promoting positive relationships through openness and accountability, and able to objectively analyze relevant information and solicit alternative opinions from followers. Together these results support the link between the ethical attitudes and behaviors of leaders and their followers and the positions of Shay and others (e.g., Quillan; Warner & Appenzeller, 2011) concerning the role of leadership in the prevention of moral injury.

3 Key Considerations for the CAF

3.1 Conceptual Understanding

As Kruger (2014) notes: "[c]urrently, there is limited research that examines the multifaceted nature involved in how service members cope with feelings of shame and guilt associated with traumatic events in combat. Given the lack of understanding about the complexity of emotional responses outside the realm of PTSD symptoms, future studies focusing on the link between traumatic events and morally injurious outcomes are warranted" (p. 142). Although certainly true, when considering the issue of moral injury, perhaps the first question to consider is whether the concept adds substantively to our understanding of the psychological conflict that can occur as a result of participation in military operations. This is an especially valid question as the symptomology associated with moral injury are so similar to those of PTSD. Yet, it is clear that traditional views of PTSD are related to fear-induced trauma and threat to one`s own life. Thus, the discussion of moral injury would seem to add to our understanding of potential military trauma and its consequences in that it clearly identifies another source of significant post-combat psychological problems.

3.2 Prevalence within the CAF

If one agrees that there is evidence to suggest that moral injury is conceptually distinct enough from PSTD or Operational Stress Injuries (OSIs)[2] to warrant further investigation, a second question for the CAF concerns the prevalence of moral injury (vice other deployment-related difficulties) in the CAF. This is a fundamental question and one that likely requires answering in the CAF context specifically, in order to determine the amount of resources that should be devoted to further investigation, assessment, treatment and training.

3.3 Legal and Political Implications

There are very significant legal and political implications associated with this area of research, in particular, with asking about the prevalence and specifics of events in which CAF personnel may have held attitudes or engaged in behaviors that are not in line with CAF ethics and the law of armed conflict, or who have witnessed such situations involving the attitudes or behaviors of their comrades. These issues can implicate both the individual CAF member who may have acted inappropriately and the member who witnessed the behaviors of others and did nothing at the time, as well as commanding officers and senior leaders within the CAF and the CAF as an organization. Thus, from the outset any way ahead in this area, including that concerning any future research program will need the input and consideration of multiple stakeholders and advisors within the CAF.

[2] A term originating in Canada, Operational Stress Injuries or OSIs refer to any persistent psychological difficulty resulting from operational duties performed by a Canadian Armed Forces member. The term OSI is used to describe a broad range of problems which usually result in impairment in functioning. OSIs include diagnosed medical conditions such as anxiety, depression and post-traumatic stress disorder (PTSD) as well as a range of less severe conditions, but the term OSI is not intended to be used in a medical or legal context. (http://www.osiss.ca/engraph/def_e.asp?sidecat=1).

3.4 Implications for Military Mental Health

A further consideration is whether the concept of moral injury would or should change current military mental health clinical interventions. Obviously this is an issue to be debated and determined by CAF mental health providers. It is of note that this question was posed in one previous small-scale interview study of American military mental health providers and chaplains (see Drescher et al., 2011). Results suggested that these professionals believed that the term did add to a more complete description and understanding of the complex range of the consequences of combat and the traditional criteria of PTSD. Thus, there may be a potential benefit in adding questions probing ethical behaviors or lack of same during clinical interviews. Certainly, such questions could help to identify additional problematic events that may be linked to lingering post-deployment problems. On the other hand, as the behaviors that are associated with subsequent moral injury are tied so closely to feelings of guilt and/or shame, it remains an empirical question as to whether military personnel would be candid about such behaviors during an intake interview or whether these issues would be more likely to emerge in the safety of an on-going therapeutic relationship (Maguen & Burkman, 2013). Certainly the PTSD Checklist - Military Version (PCL-M, Weathers, Huska, & Keane, 1991) is clear about a defining stressful event, which could cover the range of events that are consistent with moral injury. However, perhaps an additional step would be to determine the extent to which the client reports feelings of guilt and shame during intake, which could then be followed up in therapy with therapists who might keep the possibility of moral injury in mind as a possible contributor to clinical symptoms. Maguen and Buerkman (2013) have suggested that "[t]he very act of assessing for killing helps to destigmatize it" (p. 477) – although that assertion remains an empirical question. Certainly, it is clear that "[a]ssessing for killing experiences should be done sensitively and within the context of screening for exposure to other combat experiences" (Maguen et al., 2011, p. 566).

It is not clear that the etiology of moral injury would or should require a change to current CAF clinical treatment strategies. Again this is an issue that will be decided by CAF military mental health providers. Each of the moral injury treatment approaches has its proponents and there is at least limited anecdotal clinical evidence to support each approach. However, there have been no randomized control trials directly comparing the relative efficacy of Prolonged Exposure, Adaptive Disclosure, and/or Peer Support approaches. In the end, it may be that there is no one right treatment that will be effective for all situations or clients. Indeed, it may be that combining elements from each, in an approach that would be carefully and individually tailored to the realities and needs of each client, may be what is called for. Moreover, there are certainly other approaches to PTSD treatment that may also have a place in the treatment of moral injury, such as Eye Movement Desensitization and Reprocessing (EMDR, Shapiro, 1989) – although a recent meta-analyses failed to support the effectiveness of EMDR in military populations (Verstrael, van der Wurff, & Vermetten, 2013). The ideal empirical test would be to have a multi-national randomized control trial of the most promising interventions and from the results of this research, derive best practices for the clinical care of moral injury, keeping in mind that that interventions may need to be tailored to take into account national/cultural context and be tailored to individual client.

3.5 Implications for Military Education and Training

A recent volume with contributions from an international group of military ethicists (Carrick, Connelly, & Robinson, 2009) argued that military ethics training has not kept current with the complexities of modern operations. This suggests that CAF operational ethics curricula may need to be reviewed and, where appropriate, updated to reflect the realities of what personnel can expect to encounter during missions. At the very least, this international research suggest that military education might benefit from including a discussion of moral injury and the conditions that are most likely to result in it.

A second issue is that ethics training is traditionally provided quite independently from mental health training. Hence, it is currently the case that important links between operational ethics and mental health are rarely, if ever established (Thompson & Jetly, 2014). Thus, it may also be necessary to revisit both types of training and infuse each with selected relevant lessons from the other. At the very least, the potential mental health impacts of acting immorally need to be highlighted, not just for individual military members, but also as an important lesson at all levels of military leadership education. To this end, future education might consider an adaptation of parts of an IOK approach in a way that might be directed toward education and prevention, as opposed to the focus on those veterans already experiencing the effects of moral injury. More specifically, it might be useful to adapt the lessons that underscore the interrelations of psychological, biological and social systems and the effects of moral challenges and moral transgressions on operational effectiveness and their potential to contribute to moral injury. These interrelations among these various systems and moral challenges should also be linked to in situ training as well.

Recently Rakesh Jetly and I (Thompson & Jetly, 2014), sought to address this gap, noting several principles that would seem to be critical to the development of effective moral training. For instance, we argued that such training must address the role of stress and situational factors on moral decision making and behaviors, and provide practice in order to mitigate these effects. Indeed, opportunities to practice moral decision making and behaviors, perhaps especially in situations that mirror operational stressors, or that might be constructed to involve some additional challenges to doing the right thing, is likely critical. The latter could invoke the psychological principles of attitude inoculation (i.e., small tests of an attitude or belief, see Compton & Pfau, 2005) and forewarning (i.e., preparing a person ahead of time that an attitude may be challenged, e.g., Chen, Reardon, Rea, & Moore, 1992). Importantly, the lessons embedded in the training "would need to accomplish these objectives in ways that will be meaningful and immediately relevant to a majority of military personnel who undertake the training" (Thompson & Jetly, 2014; see also Quillen, 2015). Such training should definitely include a group component, as empirical research has demonstrated that the attitudes of individuals are more resistant to change when the individual is embedded within a group or social network that holds similar attitudes than in a group that possesses a variety of attitudes on a topic (e.g., Visser & Mirabile, 2004), a result consistent with some of the findings of Winslow (2004) concerning group processes within the Canadian Airborne Regiment. Speaking to this issue, Quillen (2015) delineated potential indicators that might point "to the need for retraining and revisiting" [moral standards that] may include if a unit gains a reputation of a "bad unit", there are acts of immoral behavior, or the personality of a unit changes quickly and withdraws into itself … these changes may reflect a "normalization of deviancy" (p. 9-10).

3.6 Stigma

A related research question is whether, and the extent to which, there might be stigma associated with the label moral injury, and whether such stigma would differ in any way from stigma that is associated with terms such as PSTD. As part of this understanding, it might be useful determine how the term 'moral injury' is understood and evaluated by military personnel. For instance, is it a term that is or would be associated with increased real or perceived stigma by peers or indeed by the individual him or herself (i.e. self-stigma, see Brohan, Slade, Clement, & Thornicroft, 2010; Corrigan, Watson, & Barr, 2006)? Might the term itself suggest a person who is morally weak or deficient? And if so, what are the implications of this label? Moreover, as one form of moral injury is the result of the individual actually perpetrating moral violations, would all those who suffer from a moral injury be assumed to be a moral violator in the eyes of others? As such, might CAF military personnel be best served by incorporating the notion of moral injury under the term PTSD, or operational stress injuries (OSI), and merely expanding the range and type of questions asked under these categories to include issues and emotions that are associated with moral injury?

4 Potential Research Agenda

4.1 Prevalence of Military Moral Injury

Addressing the preceding issues should be informed by an integrated research agenda employing a variety of methodologies. At the outset, it is important to establish prevalence rates within the CAF context, as well as confirm the definitions of moral injury according to the experience of Canadian military personnel. One approach to this issue might involve replicating and expanding the work of Ritov and Barnetz (2014), who asked soldiers if they had moral objections to orders that they were given, by including questions on whether soldiers had engaged in or witnessed actions that they felt had violated moral standards (but see earlier discussion of legal and political considerations). Such questions might be asked in the context of a military population health survey conducted by Director General Health Services (DGHS) and by/in collaboration with Director General Military Personnel Research and Assessment (DGMPRA) as part of one of their large-scale anonymous surveys. Another approach might replicate that of Drescher and colleagues (2011) by exploring these issues from the perspective of mental health providers and chaplains.

It might also be advantageous to determine whether there are particular deployment experiences that are most associated with events that can lead to moral injury and if the nature and/or prevalence of these sorts of events changes over the course of a deployment. At the very least, it would be useful to assess the numbers of military personnel who have faced moral decision making challenges on operations, whether they knew what to do when they faced the situation, how they went about making those decisions, and whether they felt that they had the training, education and other supports to assist them in this regard. This would at least begin to get at the prevalence of these sorts of experiences during operations.

4.2 Precursors, Correlates and Consequences of Moral Injury

Research might also be devoted to a better understanding of the precursors, correlates and consequences of moral injury on psychological, physiological and experiential levels. For instance, research has not yet addressed the factors that might make one particularly vulnerable or resilient in the face of moral challenges that can be injurious. One question in this area that dovetails nicely with the prevalence work above is gaining a better understanding of the events that are associated with moral injury. For instance, current empirical evidence strongly links the moral transgressions of perpetrators to moral injury (e.g., McNair, 2002). To date, clinical evidence strongly also suggests that even witnessing the immoral actions of others can lead to moral injury; indeed this is part of the operational definition of moral injury. To date there is less empirical evidence of this relationship[3] – although the research of Bryan et al. (2014) cited earlier in this report does provide initial evidence of this link (see also Thompson et al., 2008).

Regarding precursors, the research of Litz and colleagues (2009) regarding shame and guilt proneness, and perhaps neuroticism in terms of vulnerability factors and psychological hardiness (Bartone, 1999), belief in a just world (Lerner, 1980), and high self-esteem as protective factors

[3] Dr. Deanna Messervey, personal communication, Feb 6, 2015.

could be pursued further. It may also be of use to determine if any prior experience is associated with vulnerability or resiliency in this regard. For instance, research from the general PTSD literature has consistently demonstrated that early childhood trauma is associated with a vulnerability to PTSD (e.g., Cabrera, Hoge, Bliese, Castro, & Messer, 2007; King, King, Foy, Keane, & Fairbank, 1999).

Additional exploration of the nature of the attributions that are associated with developing a moral injury are also called for. For instance, researchers have considered the role of anxiety sensitivity, attributional styles, rumination, and looming cognitive style (Elwood, Hahn, Olatunji & Williams, 2009) in the development of PTSD and this research could be reviewed and, if deemed to be promising, applied to the issue of vulnerability to moral injury. Moreover, it may well be that moral injury's ties to guilt and shame, their differential links to different patterns of attributions and to the different behavioral systems (i.e., the Behavioral Activation System and Behavioral Inhibition System for guilt and shame, respectively), as well as to different neural substrates, may be a fruitful avenue for future research. If these links are established it would perhaps be of use to determine the effectiveness of treatment interventions on these various markers of moral injury.

A final area of study stems directly from the social psychological analyses of past military unethical actions (e.g., Castro & McGurk, 2007 and atrocities (see Bartone, 2008; Zimbardo, 2008). Each of these has raised multiple situational factors that should be investigated to better understand the impact of the total situation and how that can shape behavior. Indeed, the behavior of some of the guards at Abu Ghraib prison in Iraq, and the subsequent dismissal of the events as being the result of 'a few bad apples' by senior United States government officials, led renowned social psychologist Phillip Zimbardo to write The Lucifer Effect (2008). In this book he explored and explained how various situational features can cause good people to act immorally. He argues that "[g]ood people can be induced, seduced, and initiated into behaving in evil ways. They can also be led to act in irrational, stupid, self-destructive, antisocial, and mindless ways when they are immersed in 'total situations' that impact human nature in ways that challenge our sense of the stability and consistency of individual personality, of character, and of morality" (p. 211). Areas to be pursued in this case would include peer and leader effects, as well as a variety of stressors that are often associated with military deployments, such as sleep deprivation, information overload or ambiguity, time pressure, environmental extremes, fear, frustration and anger.

4.3 Moral Injury Mental Health Interventions

As mentioned earlier in this report, systematic studies of mental health interventions are still in their infancy. Thus, it is critical that there be further development and rigorous assessment of the efficacy of various treatment approaches. Note that such research would be difficult to accomplish only within the CAF, simply because the numbers of individuals who report suffering from moral injury may not be sufficient to ensure valid results. Thus, it is more likely that this work should be conducted in collaboration with our major allies such as the United States, Great Britain, and Australia, perhaps under the auspices of The Technical Cooperation Panel (TTCP) or under some other multinational research agreement such as the American, British, Canadian, Australian and New Zealand Armies (ABCA) Program or the Human Factors and Medicine (HFM) Panel of the NATO Science and Technology Organization (STO).

4.4 Training Interventions

As indicated in the training implications section of this report, although some conceptual discussions exist, save for the work of Warner, Appenzeller and colleagues (Warner, et al., 2011) there is virtually no empirical work on the development or validation of training interventions for operational ethics and, by extension, moral injury. Still, integrating the conceptual discussions with the work of Warner and colleagues would provide a starting point and direction for such interventions and studies. The focus of these research efforts would center on the strategies that would target the prevention of the moral transgressions that can be associated with moral injury, and/or would target strategies for immediate intervention by peers and leaders should such vulnerabilities develop. Also following from the example of Warner and colleagues, the development and assessment of such training interventions, beyond pilot testing, should ideally involve randomized control trials. Again, given the resources and number of participants required to undertake such a program of research, such studies might be best undertaken in the context of a multinational trial whenever possible. Certainly this is an area of research that would need to be conducted in concert with CAF training authorities, so that training development efforts are informed by empirical evidence and to ensure that research approaches are informed by the realities of already overburdened training requirements. Indeed, this is one of the reasons that Thompson and Jetly recommend that carefully considered and constructed ethical decision injects be integrated into existing training wherever possible, rather than pursuing the construction of stand-alone ethical scenario training.

4.5 Stigma

Finally, the research literature and future empirical studies could be brought to bear to determine if there is any stigma associated with the term moral injury from within the greater military population and indeed within Canadian society. Certainly there has been substantial evidence that stigma associated with mental health issues, real and/or perceived, is a major barrier to military personnel seeking psychological assistance and treatment (e.g., see Ben-Zeev, Corrigan, Britt, & Langford, 2012; Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004; Kim, Thomas, Wilk, Castro, & Hoge, 2010; Vogt, 2011). Vogt and colleagues (Vogt, Di Leone, Wang, Sayer, Pineles, & Litz, 2014) recently developed and validated a measure to assess endorsed and anticipated stigma associated with mental health that might be extremely valuable in the assessment of stigma related to moral injury – and indeed military stress-related conditions in general.

More generally addressing the issue of stigma, prejudice and their reduction, Phelan, Link, and Dovidio (2008) developed a theoretical model in which stigma and prejudice serve one of three functions: to exploit and dominate a group (i.e., to keep people down); to enforce norms (i.e., to keep people in the group – and conforming); or for disease avoidance (i.e., to keep people away). Each of these functions are rooted in some perceived threat to an individual, group or culture (see also Stangor & Crandall, 2000), yet each function is considered distinct (domination/exploitation is associated with a threat to maintaining power or status; norm enforcement is associated with perceived threats to the social order; and disease avoidance is associated with a threat to some aspect of health). Importantly, Phelan et al. argue that these different functions are also associated with different types of affective reactions (domination/exploitation is associated with fear, hate and pity, norm enforcement is associated with anger and revenge and disease avoidance is associated with fear and disgust). They “believe efforts to reduce stigma and prejudice will be

enhanced by considering why the characteristic is the target of stigma and prejudice" (p. 365), arguing that the different functions of stigma might require or respond to different remedial actions. Certainly these ideas could integrated with past work that has sought to develop strategies for stigma and prejudice reduction in military settings (e.g., see Dickstein, Vogt, Handa, & Litz, 2010; Gould, Adler, Zamorski, Castro, Hanily, Steele, Kearney, & Greenberg, 2010; Greene-Shortridge, Britt, & Castro, 2007; Osório, Jones, Fertout, & Greenberg, 2013; Zamorski, 2011).

5 Conclusion

While not necessarily a new phenomenon, the emerging literature on moral injury may add an important concept to discussions concerning the potential aftermath of contemporary military operations. It is clear that the moral complexity and ambiguity of the future security environment is only likely to increase. Thus, addressing such issues is an important part of the Canadian government's and CAF senior leadership's duty of care to the military personnel they have sent, and will no doubt continue to send, into harm's way.

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References

Allison, W. T. (2012). My Lai: An American Atrocity in the Vietnam War. Baltimore: Johns Hopkins University Press.

Banks, T. (2012, March 2). A very dirty war: British soldiers shot dead by enemy troops waving the white flag and Argentinian prisoners bayoneted in cold blood. An ex-Para tells of the horrors of the Falklands. Daily Mail. Retrieved December 11, 2012, from http://www.dailymail.co.uk/news/article-2109429/A-dirty-war-British-soldiers-shot-dead-enemy-troops-wavingwhite-flag-Argentinian-prisoners-bayoneted-cold-blood-An-ex-Para-tells-horrors-Falklands.html. Retrieved January 14, 2015.

Bartone, P. T. (1999). Hardiness protects against war-related stress in Army Reserve forces. Consulting Psychology Journal: Practice and Research, 51(2), 72-82.

Bartone, P.T. (2008). Lessons of Abu Ghraib: Understanding and preventing prisoner abuse in military operations. Defense Horizons, 64, 1-8. http://www.ndu.edu/CTNSP/defense_horizons/DefenseHorizon64.pdf. Retrieved February 9, 2011.

Beardsley, B. (2008). Building trust in a multi-national team during combat or near-combat operations In J. Stouffer & C. L. Mantle (Eds.), In harm's way – Leveraging trust: A force multiplier for today (pp. 43-52). Kingston CA: Canadian Defence Academy Press.

Becker, C. B., Zayfert, C. & Anderson, E. (2004). A survey of psychologists' attitudes towards and utilization of exposure therapy for PTSD. Behavior Research and Therapy, 42(3), 277-292.

Ben-Zeev, D., Corrigan, P. W., Britt, T. W. & Langford, L. (2012). Stigma of mental illness and service use in the military. Journal of Mental Health, 21(3), 264-273.

Boserio, G. (2013). The untold cost of moral injuries in war. http://www.abc.net.au/radionational/programs/latenightlive/anzac-day/4648634. Retrieved January 19, 2015.

Boulous, D. & Zamoreski, M. A. (2013). Deployment-related mental disorders among Canadian Forces personnel deployed in support of the mission in Afghanistan, 2011-2008. Canadian Medical Association Journal, http://www.cmaj.ca/content/early/2013/07/02/cmaj.122120.full.pdf+html. Retrieved October 31, 2014.

Brock, R. N. & Lettini, G. (2012). Soul repair: Recovering from moral injury after war. Boston, MA: Beacon Press.

Brohan, E., Slade, M., Clement, S. & Thornicraft, G. (2010). Experiences of mental illness stigma, prejudice and discrimination: a review of measures. BMC Health Services Research, 10:80. http://www.biomedcentral.com/1472-6963/10/80. Retrieved January 15, 2015.

Bryan, A. O., Bryan, C. J., Morrow, C. E., Etienne, N. & Ray-Sannerud, B. (2014). Moral Injury, Suicidal Ideation, and Suicide Attempts in a Military Sample. Traumatology, 20(3), 154-160.

Cabrera, O. A., Hoge, C. W., Bliese, P. D., Castro C. A. & Messer, S. C. (2007). Childhood adversity and combat as predictors of depression and post-traumatic stress in deployed troops. American Journal of Preventative Medicine; 33(2), 77–82.

Carrick, D., Connelly, J., & Robinson, P. (2009). Ethics education for irregular warfare. Farnham, UK: Ashgate.

Carver, C. S., & Scheier, M. F. (2008). Feedback processes in the simultaneous regulation of action and affect. In J. Y. Shah, & W. L. Gardner (Eds.), Handbook of motivation science. (pp. 308-324). New York, NY, US: Guilford Press.

Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. Journal of Personality and Social Psychology, 67(2), 319-333.

Castro, C.A., & McGurk, D. (2007). Battlefield Ethics. Traumatology, 13, 24-31.

Charuvastra A. & Cloitre M. (2008). Social bonds and posttraumatic stress disorder. Annual Review of Psychology, 59, 301-28.

Chen, H. C., Reardon, R., Rea, C. & Moore, D. (1992). Forewarning of content and involvement: Consequences for persuasion and resistance to persuasion. Journal of Experimental Social Psychology, 28, 523-541.

Clancy, C. P., Greybeal, A., Tompson, W. P., Badgett, K. S., Feldman, M. E., Calhoun, P. S., Erkanli, A., Hertzberg, M. A., & Beckham, J. C. (2006). Lifetime trauma exposure in veterans with military-related posttraumatic stress disorder: Association with current symptomatology. Journal of Clinical Psychiatry, 67(9), 1346-1353.

Clark, M. E., Bair, M. J., Buckenmaier, C. C. Gironda, R. J. & Walker, R. L. (2007). Pain and combat injuries in soldiers returning from Operations Enduring Freedom and Iraqi Freedom: Implications for research and practice. Journal of Rehabilitation Research & Development, 44(2), 179-194.

Compton, J. A. & Pfau, M. (2005). Inoculation theory of resistance to influence at maturity: Recent progress in theory development and application and suggestions for future research. In Kalbfleisch, P. J. (Ed.), Communication Yearbook 29 (pp. 97-145). Mahwah, NJ: Lawrence Erlbaum.

Corrigan, P. W., Watson, A. C. & Barr, L. (2006). The Self-Stigma of Mental Illness: Implications for Self-Esteem and Self-Efficacy. Journal of Social and Clinical Psychology, 25(8), 875-884.

Dallaire, R. (2000). Command experiences in Rwanda. In C. McCann & R., Pigeau (Eds.), The human in command: Exploring the modern military experience. Kluwer Academic/Plenum Publishers: New York, NY.

Dallaire, R. A. & Beardsley, B. (2003). Shake hands with the devil: the failure of humanity in Rwanda. Toronto: Random House: Toronto, Canada.

Davidson, R. J. (1998). Affective style and affective disorders: Perspectives from affective neuroscience. Cognition & Emotion, 12(3), 307-330.

Davidson, R. J., Ekman, P., Saron, C. D., Senulis, J. A., & Friesen, W. V. (1990). Approach-withdrawal and cerebral asymmetry: Emotional expression and brain physiology: I. Journal of Personality and Social Psychology, 58(2), 330-341.

De Cremer, D. (2009). Psychological perspectives on ethical behavior and decision making. Charlotte, NC: Information Age Publishing.

Dickstein, B. D., Vogt, D. S., Handa, S. & Litz, B. T. (2010). Targeting self-stigma in returning military personnel and veterans: A review of intervention strategies. Military Psychology, 22(2), 224-236.

Dombo, E., Gray, C., & Early, B. P. (2013). The trauma of moral injury: Beyond the battlefield. Journal of Religion and Spirituality in Social Work: Social Thought, 32, 197-210.

Drescher, K. D., Foy, D. W., Kelly, C., Leshner, A., Schutz, K. & Litz, B. (2011). An exploration of the viability and usefulness of the construct of moral injury in war veterans. Traumatology, 17(1), 8-13.

Elwood, L. S., Hahn, K. S., Olatunji, B. O. & Williams, N. L. (2009). Cognitive vulnerabilities to the development of PTSD: A review of four vulnerabilities and the proposal of an integrative vulnerability model, Clinical Psychology Review, 29(1), 87-100.

Friedman, M. J., Schnurr, P. P. & McDonagh-Coyle, A. (1994). Post-traumatic stress disorder in the military veteran. Psychiatry Clinical North America, 17(2), 265-77.

Gould, M. Adler, A., Zamorski, M., Castro, C., Hanily, N., Steele, N., Kearney, S. & Greenberg, N. (2010). Do stigma and other perceived barriers to mental health care differ across Armed Forces? Journal of the Royal Society of Medicine, 103, 148–156.

Government of Canada. (1997). Report of the Somalia Commission of Inquiry, http://www.dnd.ca/somalia/vol1/indexe.htm. Retrieved December 11, 2012.

Gradus, J. L. (2014). Epidemiology of PTSD. http://www.ptsd.va.gov/professional/PTSD-overview/epidemiological-facts-ptsd.asp. Retrieved October 15, 2014.

Gray, M. J., Schorr,Y., Nash, W., Lebowitz, L., Amidon, A., Lansing, A., Maglione, M., Lang, A. J. & 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, 407-415.

Greene-Shortridge, T. M.; Britt, T. W. & Castro, C. A. (2007). The stigma of mental health problems in the military. Military Medicine, 172(2), 157-161.

Grossman, D. (1995). On Killing: The Psychological Cost of Learning to Kill in War and Society. Boston: Little, Brown and Company.

Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), Handbook of affective sciences (pp. 852-870). Oxford: Oxford University Press.

Hannah, S. T., Avolio, B. J. & Walumbwa, F. O. (2011). Relationships between authentic leadership, moral courage, and ethical and pro-social behaviors. Business Ethics Quarterly, 21(4), 555-578.

Heekeren, H. R., Wartenburger, I., Schmidt, H., Prehn, K., Schwintowski, H. P., & Villringer, A. (2005). Influence of bodily harm on neural correlates of semantic and moral decision-making. NeuroImage, 24, 887-897.

Hembree, E. A., Rauch, S. A. M. & Foa, E. B. (2003). Beyond the Manual: The Insider's Guide to Prolonged Exposure Therapy for PTSD. Cognitive and Behavioral Practice, 10, 22-30.

Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. New England Journal of Medicine, 351(1), 13-22.

Hoge, C. W., Terhakopian, A., Castro, C. A., Messer, S. C. & Engel, C. C. (2007). Association of Posttraumatic Stress Disorder With Somatic Symptoms, Health Care Visits, and Absenteeism Among Iraq War Veterans. The American Journal of Psychiatry, 164(1), 150-153.

Horne, B. (2004). The unspoken leadership challenge: Fear and courage. In B. Horne (Ed.), In the breach: Perspectives on leadership in the army today (pp. 129). Kingston, Canada: Director General Land Combat Development.

Jones, E. & Wessely, S. (2001). Psychiatric battle casualties: An intra- and interwar comparison. The British Journal of Psychiatry, 178, 242-247.

Kagan (2001). The nature of morality. Medical Ethics, 8, 1-2.

Kilner, P. G. (2002). Military leaders' obligation to justify killing in war, Military Review, 72(2), 24-31.

Kilner, P.G. (2005, January). The military ethicist's role in preventing and treating combat-related, perpetration-induced psychological trauma. Paper presented at the Joint Services Conference on Professional Ethics: Pre-emptive War. Springfield, VA. http://isme.tamu.edu/JSCOPE05/Kilner05.html. Retrieved February 9, 2011.

Kim, P. Y., Thomas, J. L., Wilk, J. E., Castro, C. A. & Hoge, C. W. (2010). Stigma, Barriers to Care, and Use of Mental Health Services Among Active Duty and National Guard Soldiers After Combat, 61(6), 582–588.

King, D. W., King, L. A., Foy, D. W., Keane, T. M. & Fairbank, J. A. (1999). Posttraumatic stress disorder in a national sample of female and male Vietnam veterans: Risk factors, war-zone stressors, and resiliency-recovery variables. Journal of Abnormal Psychology, 108(1), 164-170.

Kruger, L. E. (2014). Is there more to the experience of war trauma than PTSD The development of moral injury and its impact on soldiers. Journal of Military and Government Counselling, 2(2), 136-145.

Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R. & Weiss, D. S. (1990). Trauma and the Vietnam war generation: Report on the findings from the National Vietnam Veterans Readjustment Study. New York: Brunner/Mazel.

Lerner, M. J. (1980). The belief in a just world: A fundamental delusion. New York, NY: Springer.

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, 695-706.

Maguen, S. & Burkman, K. (2013). Combat-related killing: Expanding evidence-based treatments for PTSD. Cognitive & Behavioral Practice, 20, 476-479.

Maguen, S. & Litz, B. T. (2014). Moral injury in the context of war. Retrieved Oct 30, 2014 from http://www.ptsd.va.gov/professional/co-occurring/moral_injury_at_war.asp.

Maguen, S., Lucenko, B., Reger, M.A., Gahm, G., Litz, B., Seal, K., Knight, S. & Marmar, C.R. (2011). The impact of reported direct and indirect killing on mental health symptoms in Iraq war veterans. Journal of Traumatic Stress, 23, 86-90.

McNair, R. M. (2002). Perpetration-induced traumatic stress in combat veterans. Peace and Conflict: Journal of Peace Psychology, 8(1), 63-72.

Mental Health Advisory Team (MHAT) IV (17 November, 2006). Final Report. Office of the Surgeon General, United States Army Medical Command.

Morris, S. (2006). Bleak in Basra, court martial told, Guardian Unlimited, September 23, www.guardian.co.uk/Iraq/Story/0,,1879295,00.html. Retrieved October 20, 2014.

Nash, W. P. & Litz, B. T. (2013). Moral injury: A mechanism for war-related psychological trauma in military family members. Clinical Child and Family Psychology Review, 16(4), 365-375.

Orasanu, J. M. & Backer, P. (1996). Stress and military performance. In J. E. Driskell & E. Salas (Eds.), Stress and human performance (pp. 89-125). Mahwah, NJ: Erlbaum.

Osório, C., Jones, N., Fertout, M. & Greenberg, N. (2013). Changes in Stigma and Barriers to Care Over Time in U.K. Armed Forces Deployed to Afghanistan and Iraq Between 2008 and 2011. Military Medicine, 178(8), 846-853.

Paré, J-R. (2013). Post-traumatic stress disorder and the mental health of military personnel and veterans (Background Paper). Publication No. 2011-97-E, Ottawa, ON: Library of Parliament.

Phelan, J. C., Link, B. G. & Dovidio, J. F. (2008). Stigma and prejudice: One animal or two? Social Medicine & Science, 67, 358-367.

Pitman, R. K., Altman, B., Greenwald, E., Longpre, R. E., Macklin, M. L, Poiré, R. E. & Steketee, G. S. (1991). Psychiatric complications during flooding therapy for posttraumatic stress disorder. Journal of Clinical Psychiatry. 52(1), 17-20.

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, 635-641.

Quillin, R. (2015).The importance of unit climate in effecting moral injury. http://www.google.ca/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=2&ved=0CCkQFjAB&url=http%3A%2F%2Fwww.cgscfoundation.org%2Fwp-content%2Fuploads%2F2014%2F03%2FQuillen-UnitClimateinEffectingMoral-Injury.pdf&ei=E9PYVNuXIYSHyQTJlYKICA&usg=AFQjCNEgP9GRcBp3YzALxshBMvRO2DhfRQ&bvm=bv.85464276,d.aWw. Retrieved Feb. 9, 2015.

Rayment, S. (2011, August 27). British Army cleared of systematic abuse by Baha Mousa inquiry. The Telegraph. http://www.telegraph.co.uk/news/worldnews/middleeast/iraq/8727075/British-Army-cleared-of-systematic-abuse-by-Baha-Mousa-inquiry.html. Retrieved December 11, 2012.

Ritov, G. & Barnetz, Z. (2014). The interrelationships between moral attitudes, posttraumatic stress disorder and mixed lateral preference in Israeli reserve combat troops. International Journal of Social Psychiatry, 60(6), 606-612.

Santow, S. (May 25, 2011). Aussie soldiers accused of mistreating Afghan prisoners. ABC News. Retrieved December 11, 2012 from http://www.abc.net.au/news/2008-09-02/aussie-soldiersaccused-of-mistreating-afghan/496800. Retrieved January 14, 2015.

Schlesinger, J. R., Brown, H., Fowler, T. K., & Horner, C. A. (August 2004). Final Report of the Independent Panel to Review DoD Detention Operations. Arlington, VA: United States Department of Defense.

Shapiro, F. (1989). Efficacy of the eye movement desensitization procedure in the treatment of traumatic memories. Journal of Traumatic Stress, 2 (2), 199-223.

Shay, J. (2002). Odysseus in America: Combat Trauma and the Trials of Homecoming. New York, NY: Scribner.

Shay, J. (2009). The trials of homecoming: Odysseus returns from Iraq/Afghanistan. Smith College Studies in Social Work, 79, 286-298.

Shay, J. (2011). Casualties, Deadalus, Summer, 179-188.

Shay, J. (2014). Moral Injury. Psychoanalytic Psychology, 31(2), 182-191.

Sheikh, S. & Janoff-Bulman, R. (2010). The “should” and “should nots” of moral emotions: A self-regulatory perspective on shame and guilt. Personality and Social Psychology Bulletin, 36, 213-224.

Sherman, N. (2014). Recovering lost goodness: Shame, guilt and self-empathy. Psychoanalytic Psychology, 31(2), 217-235.

Smee, J. (2006). Germany shocked by photos of soldiers posing with skull. Guardian Unlimited, October 25, 2006. www.guardian.co.uk/germany/article/0,,1931378,00.html. Retrieved October 20, 2014.

Stangor, C. & Crandall, C. S. (2000). Threat and social construction of stigma. In T. F. Heatherton, R. E. Kleck, M. R. Hebl & J. G. Hull (Eds.), The social psychology of stigma (pp. 62–87). New York: Guilford Press.

Steenkamp, M.M., Litz, B.T., Gray, M., Lebowitz, L., Nash, W., Conoscenti, L., Amidon, A. & Lang, A. (2011). A brief exposure-based intervention for service members with PTSD. Cognitive and Behavioral Practice, 18, 98–107.

Steenkamp, M. M., Nash, W. P., Lebowitz, L. & Litz, B. T., (2013). How best to treat deployment-related guilt and shame: Commentary on Smith, Daux and Rauch (2013). Cognitive and Behavioral Practice, 20, 471-475.

Stein, N. R., Mills, M. A., Arditte, K., Mendoza, C., Borah, A. M., Resick, P. A., Litz, B. T. & STRONG STAR Consortium (2012). A Scheme for Categorizing Traumatic Military Events. Behavior Modification, 36, 787-807.

Sutton, S. K. & Davidson, R. J. (1997). Prefrontal brain asymmetry: A biological substrate of the behavioral approach and inhibition systems. Psychological Science, 8(3), 204-210.

Tagney, J. P., Stuewig, J. & Mashek, D. J. (2007). Moral emotions and moral behavior. Annual Review of Psychology, 58, 345-372.

Thomson, M. H., Adams, B. D. & Sartori, J. A. (2006). Moral and Ethical Decision Making in Canadian Forces Operations. DRDC Toronto Contract Report (DRDC Toronto CR 2006-013). Toronto, Canada: Defence R&D Canada.

Thompson, M. M. & Gignac, M. A. M. (2002). The experience of Canadian Forces augmentees. In P. Essens, A. Vogelaar, E. Tanercan & D. Winslow (Eds.), The human in command: Peace support operations (pp. 235-263). Amsterdam: Mets & Schilt/KMA.

Thompson, M. M. & Jetly R. (2014). Battlefield ethics training: Integrating ethical scenarios in high-intensity military field exercises. European Journal of Psychotraumatology, 2014, 5, http://dx.doi.org/10.3402/ejpt.v5.23668. Retrieved January 16, 2015.

Thompson, M. M. & McCreary, D. R. (2006). Enhancing mental readiness in military personnel. In T. W. Britt, A. B. Adler & C. A. Castro (Eds.), Military life: The psychology of serving in peace and combat, Volume 2: Operational stress (pp. 5479). Westport, CT: Praeger Security International.

Thompson, M. M., Thomson, M. H. & Adams, B. A. (2008). Moral and ethical dilemmas in Canadian Forces military operations: Qualitative and descriptive analyses of commanders' operational experiences. DRDC Toronto Technical Report (DRDC Toronto TR 2008-183). Toronto, Canada: Defence R & D Canada.

Velasuez, M. G. & Rostankowski, C. (1985). Ethics: Theory and practice. Englewoods Cliffs, NJ: Prentice-Hall.

Verstrael, S., van der Wurff, P. & Vermetten, E. (2013). Eye movement desensitization and reprocessing as a treatment for combat-related PTSD: A meta-analysis. Military Behavioral Health, 1(2), 68-73.

Violations, P. (2005). Law of war and rules of engagement. http://arotc.uncc.edu/.../MSL%20401%20Values%20and%20Ethics%20Section. Retrieved October 20, 2014.

Visser, P. S. & Mirabile, R. R. (2004). Attitudes in social context: The impact of social network composition on individual-level attitude strength. Journal of Personality and Social Psychology, 87(6), 779-795.

Vogt, D. (2011). Mental health-related beliefs as a barrier to service use for military personnel and veterans: a review. Psychiatric Services, 62(2), 135-142.

Vogt, D., Di Leone, B. A., Wang, J. M., Sayer, N. A., Pineles, S. L. & Litz, B. T. (2014). Endorsed and Anticipated Stigma Inventory (EASI): a tool for assessing beliefs about mental illness and mental health treatment among military personnel and veterans. Psychological Services, 11(1), 105-113.

Walzer, M. (2006). Just and Unjust Wars: A moral argument with historical illustrations (Fourth Ed.) New York, NY: Basic Books.

Warner, C. H. & Appenzeller, G. N. (2011). Engaged leadership: Linking the professional ethic and battlefield behaviors. Military Review, 91, 61-69.

Warner, C. H., Appenzeller, G. N., Mobbs, A., Parker, J. R., Warner, C. M., Grieger, T. & Hoge, C. W. (2011). Effectiveness of battlefield-ethics training during combat deployment: A programme assessment. The Lancet, 378, 915-924.

Weathers, F.W., Huska, J.A. & Keane, T.M. (1991). PCL-M for DSM-IV. Boston: National Center for PTSD – Behavioral Science Division.

Williams, T. (2008) Rules Of Engagement: Seeking Moral and Legal Sufficiency in the 21st Century. Global Tides: Vol. 2, Article 4. http://digitalcommons.pepperdine.edu/globaltides/vol2/iss1/4. Retrieved January 13, 2015.

Winslow, D. (2004). Misplaced loyalties: The role of military culture in the breakdown of discipline in two peace operations. Journal of Military and Strategic Studies, 6(3). www.jmss.org/jmss/index.php/jmss/article/download/214/231. Retrieved October 15, 2014.

Zamorski, M. A. (2011). Towards a Broader Conceptualization of Need, Stigma, and Barriers to Mental Health Care in Military Organizations: Recent Research Findings from the Canadian Forces. Paper presented at the RTO Human Factors and Medicine Panel (HFM) Symposium, Mental Health and Well-Being across the Military Spectrum (NATO RTO-MP-HFM-205) held in Bergen, Norway on 11 - 13 April 2011. https://www.cso.nato.int/pubs/rdp.asp?RDP=RTO-MP-HFM-205, Retrieved January 19, 2015.

Zimbardo, P. G. (2007). The Lucifer effect: Understanding how good people turn evil. New York, NY: Random House.

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List of symbols/abbreviations/acronyms/initialisms

ABCA	American, British, Canadian, Australian and New Zealand Armies Program
AD	Adaptive Disclosure
AOR	Area of Responsibility
BAS	Behavioral Activation System
BIS	Behavioral Inhibition System
CAF	Canadian Armed Forces
DGHS	Director General Health Services
DGMPRA	Director General Military Personnel Research and Assessment
DRDC	Defence Research and Development Canada
EMDR	Eye Movement Desensitization and Reprocessing
HFM	Human Factors and Medicine
IE	Imaginal Exposure
IED	Improvised Explosive Devices
IOK	Impact of Killing in War
MHAT	Mental Health Advisory Team
NATO STO	North Atlantic Treaty Organization, Science and Technology Organization
OSI	Operational Stress Injury
PCL-M	PTSD Checklist - Military Version
PE	Prolonged Exposure
PTSD	Post-Traumatic Stress Disorder
TTCP	The Technical Cooperation Panel
UN	United Nations

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As the Canadian Armed Forces (CAF) regroup from its largest deployment since Korea and the longest combat deployment since the Second World War, emerging mental health data suggests that approximately 14% of CAF personnel who had deployed to Afghanistan had a mental health disorder that was linked to the Afghan mission. This paper focuses on a particular psychological aftermath of military operations, that which may be associated with the moral and ethical challenges that personnel face in military missions. More specifically, in this paper I provide an introduction to the concept of *moral injury*, formally defined as the psychological anguish that can result from"[p]erpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations (Litz et al., 2014, p. 697). I begin with a brief overview of the essential role of morality and ethics in military operations. I then outline the historical development of the concept of moral injury, discuss its symptomology, and outline the current approaches to treatment. I conclude by discussing a number of key considerations for the CAF in terms of a way ahead with respect to the issue of moral injury.

Tandis que les Forces armées canadiennes (FAC) se remettent de leur plus important déploiement depuis la Corée et de leur plus longue mission de combat depuis la Seconde Guerre mondiale, de nouvelles données sur la santé mentale laissent croire qu'environ 14 % de l'ensemble du personnel des FAC qui a été déployé avait des troubles de santé mentale liés à la mission en Afghanistan. Ce document porte sur une conséquence psychologique particulière des opérations militaires qui peut être associée aux questions morales et éthiques auxquelles le personnel fait face au cours de missions militaires. Plus précisément, dans ce document, je présente le concept de *préjudice moral*, défini formellement comme la souffrance psychologique qui peut découler du fait de [*Traduction*] « commettre ou laisser commettre des actes qui transgressent des croyances et des attentes profondément ancrées, en être témoin ou apprendre qu'ils ont été commis » (Litz et coll., 2014, p. 697). Je commence par un aperçu général du rôle essentiel de la moralité et de l'éthique dans les opérations militaires. Je présente ensuite l'évolution historique du concept de préjudice moral, j'examine sa symptomatologie et je présente les approches actuelles de son traitement. Je conclus en abordant un certain nombre de facteurs clés pour les FAC en ce qui concerne la voie à suivre sur la question du préjudice moral.

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moral injury, operational ethics, stress and coping