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# Moral and ethical dilemmas in Canadian Forces military operations:

*Qualitative and descriptive analyses of commanders'  
operational experiences*

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**Defence R&D Canada**

Technical Report

DRDC Toronto TR 2008-183

October 2008

Canada



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## **Defence R&D Canada - Toronto**

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In conducting the research described in this report, the investigators adhered to the policies and procedures set out in the Tri-Council Policy Statement: Ethical conduct for research involving humans, National Council on Ethics in Human Research, Ottawa, 1998 as issued jointly by the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council of Canada and the Social Sciences and Humanities Research Council of Canada.

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## Abstract

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Military operations have always held the potential for the encountering of moral dilemmas by military personnel. The current research involved secondary data analyses of an intensive interview study of Canadian Forces senior officers, each of whom had confronted a moral dilemma (i.e., situations or circumstances in which at least two core values are in conflict) during a deployment. Each interview was coded for evidence of central conceptual frameworks from the moral and ethical decision making literature, including the number and nature of the dimensions of moral intensity, and moral emotions, as well as for evidence of counterfactual thinking (i.e., 'what if' or 'if only' statements describing imagined alternatives to an actual outcome). Although commonly used in the moral and ethical decision making literature, there have been few applications of these models to the military domain, and virtually none that has applied all of these frameworks to first-hand accounts of moral dilemmas. Finally this work explores the extent to which these accounts reveal psychological resolution concerning these moral and ethical dilemmas, and the extent to which psychological resolution is associated with particular moral intensity dimensions, moral emotions and counterfactual thinking.

## Résumé

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Les opérations militaires ont toujours été susceptibles de créer des situations où le personnel militaire fait face à des dilemmes moraux. La présente recherche a comporté des analyses de données secondaires provenant d'une étude exhaustive menée par entrevues auprès d'officiers supérieurs des Forces canadiennes qui avaient tous été confrontés à un dilemme moral (c.-à-d. des situations ou circonstances où au moins deux valeurs fondamentales sont en conflit) au cours d'un déploiement. Nous avons analysé chaque entrevue afin de trouver la preuve des cadres conceptuels centraux de la documentation sur la prise de décisions morales et éthiques, y compris le nombre et la nature des dimensions de l'intensité morale et des émotions morales, ainsi que la preuve de la pensée contrefactuelle (c.-à-d. des énoncés de ce qui aurait pu arriver « si seulement... », décrivant des solutions imaginées qui remplaceraient un résultat réel). Bien que ces modèles soient couramment utilisés dans la documentation sur la prise de décisions morales et éthiques, ils sont peu appliqués dans le domaine militaire, et presque aucun d'eux n'a appliqué l'ensemble de ces cadres aux comptes rendus de première main portant sur des dilemmes moraux. Enfin, nous examinons dans quelle mesure ces comptes rendus révèlent une résolution psychologique des dilemmes moraux et éthiques en question, et dans quelle mesure cette résolution psychologique est liée à des aspects particuliers de l'intensité morale, des émotions morales et de la pensée contrefactuelle.

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## Executive summary

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### **Moral and Ethical Dilemmas in Canadian Forces Military Operations: Qualitative and Descriptive Analyses of Commander's Experiences**

**Megan M. Thompson, Michael H. Thomson, Barbara D. Adams**  
DRDC Toronto TR 2008-183; Defence R&D Canada – Toronto; October

**Background:** Although military operations have always held potential for raising moral and ethical issues, missions since the end of the Cold War have presented personnel with increasing demands in this regard. The increasing complexity of military missions increases the likelihood that CF personnel may encounter operational ethical dilemmas (i.e., situations or circumstances in which at least two core values are in conflict), that leave the decision maker to choose between ‘the lesser of two evils’. As such, operational dilemmas present particular challenges to moral and ethical decision making.

More specifically, this current work applies central constructs from the moral and ethical decision making literature to better understand the phenomenology of operational moral and ethical dilemmas experienced by a small group of military commanders. Thus, in the current research first-hand accounts of operational moral dilemmas are analyzed for evidence of the number and nature of the dimensions of moral intensity (Jones, 1991), moral emotions (e.g., Haidt, 2003) and counterfactual thinking (Roese, 1997), as well as evidence of the psychological integration of these moral and ethical challenges into the overall worldview and lives of these interviewees. While these psychological models and frameworks each have a body of empirical research associated with them, most of this work is largely based on responses to hypothetical accounts by student samples. Thus, the current research represents one of the first efforts to study these phenomena in the military domain, and in the context of first hand accounts of moral and ethical dilemmas.

**Methodology:** Qualitative analyses were conducted on the transcripts of a previously conducted intensive interview study with current and retired Canadian Forces senior officers (Thomson, Adams, & Sartori, 2006) each of whom had confronted a moral dilemma in the course of their operational deployments. Participants were 15 Senior CF officers (7 retired and 8 active duty personnel with 13 from the Land Force and 2 being Naval officers). A key informant approach to participant recruitment was used, starting with an experienced military liaison officer at DRDC Toronto who had deployed on several overseas missions. The interviews were conducted by trained interviewers who were vigilant to evidence of, and were prepared to address any distress experienced by interviewee upon recounting events. Following the interview, typed transcripts were created that eliminated any personally identifying information. Each individual transcript was then sent to the corresponding interviewee who could edit its content before providing their approval for release and inclusion.

The transcripts were then analyzed according to an initial coding scheme drawn from key references concerning moral emotions, moral intensity and counterfactual thinking. Two raters calibrated their coding on a subset of excerpts and refined the coding scheme where ambiguity and mismatches occurred. Initial coding indicated the need for several additional moral emotion categories beyond those outlined in Haidt's original model, specifically addressing the issue of honor within the context of the profession of arms itself, and an expanded set of dimensions was developed. The refined coding scheme was then applied to the full set of operational moral and ethical dilemmas.

**Results:** Inter-rater reliability (kappa statistic) of the full set of interview transcript coding was good at .85. The average number of codes generated across accounts was 6, with an average of three moral emotions and three moral intensity dimensions being coded per transcript. Across accounts, there were three occasions in which upward and three occasions in which downward counterfactuals were coded.

The most frequently coded moral intensity dimensions were Magnitude of Consequences, Proximity to Victim or Situation; the Probability of Effect (i.e, the expected probability that outcome would actually occur) and Temporal Immediacy related to the moral event. The least often cited moral intensity dimensions were Concentration of Effect (the number of people affected by the event) and Social Consensus. The most often invoked moral emotion codes across all accounts referred to interviewees Own Conscientiousness, Own Honor, Others Dishonor, and Distress at Another's Distress. The least frequently invoked moral emotions were Awe, Elevation, Shame/ Embarrassment and Guilt.

With respect to psychological integration or resolution of the event, 19 of the accounts were rated as showing evidence of emotional and cognitive resolution while 7 were deemed to remain unresolved. Those accounts that were coded as unresolved were assigned a higher total number of codes than accounts that were coded as resolved (means = 9.43 vs. 5.95). These mean differences emerged primarily in terms of a higher number of moral emotions, rather than moral intensity dimensions. It was also the case that a higher proportion of unresolved accounts contained Contempt, Anger, Others' Dishonor, and Distress at Another's Distress, Magnitude of Consequences, Proximity, Probability of Effect, and Temporal Immediacy than was the case for the resolved accounts. Unexpectedly there was also a slightly higher proportion of unresolved accounts that contained references to Own Honor and Pride than was the case in the resolved accounts. Finally, although instances of counterfactual thinking were rare, as expected most occurrences of upward counterfactuals, in which the imagined alternative outcome was better than what actually happened, were coded in the unresolved accounts, and all instances of downward counterfactuals, in which the imagined outcome was worse than what actually occurred, were coded in the psychologically resolved accounts.

**Significance:** This research is among the first to directly apply important conceptual frameworks from the moral and ethical decision making literature to first-hand accounts of military personnel who have encountered and dealt with moral and ethical dilemmas in military operations. As such, it provides important insights into the major moral and ethical dimensions at play in a range of operational settings, and the emotions most frequently evoked in response to these moral dilemmas. Certainly, it is the first research that integrates these central conceptual frameworks in the moral and ethical domain, the literature on counterfactuals and the consequences in terms of psychological stress, coping, adaptation and resiliency with a military context.



## Sommaire

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### **Moral and Ethical Dilemmas in Canadian Forces Military Operations: Qualitative and Descriptive Analyses of Commander's Experiences**

**Megan M. Thompson; Michael H. Thomson; Barbara D. Adams; DRDC Toronto TR 2008-183; R & D pour la défense Canada – Toronto; Octobre 2008.**

**Contexte :** Bien que les opérations militaires aient toujours été susceptibles de soulever des questions morales et éthiques, les missions effectuées depuis la fin de la guerre froide ont imposé au personnel des exigences de plus en plus grandes à cet égard. La complexité croissante des missions militaires augmente la probabilité que les membres des FC rencontrent des dilemmes éthiques d'ordre opérationnel (c.-à-d. des situations ou circonstances où au moins deux valeurs fondamentales sont en conflit), devant lesquels le décideur doit choisir entre le « moindre de deux maux ». Les dilemmes opérationnels présentent donc des difficultés particulières pour la prise de décisions morales et éthiques.

Plus précisément, dans le cadre de la présente étude, les concepts centraux de la documentation sur la prise de décisions morales et éthiques sont appliqués pour favoriser une meilleure compréhension de la phénoménologie des dilemmes moraux et éthiques d'ordre opérationnel auxquels ont fait face un petit groupe de commandants militaires. Ainsi, nous analysons des comptes rendus de première main portant sur des dilemmes moraux opérationnels pour trouver la preuve du nombre et de la nature des dimensions de l'intensité morale (Jones, 1991), des émotions morales (p. ex., Haidt, 2003) et de la pensée contrefactuelle (Roese, 1997), ainsi que la preuve de l'intégration psychologique de ces défis moraux et éthiques dans la vision globale du monde et dans la vie des personnes interrogées. Bien que plusieurs recherches empiriques se rattachent à chacun de ces modèles et cadres psychologiques, la présente étude est principalement fondée sur les réactions d'échantillons d'étudiants à des comptes rendus hypothétiques. Elle représente donc l'un des premiers travaux visant à étudier ces phénomènes dans le domaine militaire, et dans le contexte des comptes rendus de première main ayant trait à des dilemmes moraux et éthiques.

**Méthode :** Des analyses qualitatives ont été effectuées à l'égard des transcriptions d'entrevues menées dans le cadre d'une étude exhaustive à laquelle ont participé des officiers supérieurs actifs et retraités des Forces canadiennes (Thomson, Adams et Sartori, 2006) qui avaient tous été confrontés à un dilemme éthique au cours de leurs déploiements opérationnels. Il s'agissait de 15 officiers supérieurs des FC (sept à la retraite et huit en service actif), soit 13 de la Force terrestre et deux de la Force maritime. Pour recruter les participants, nous avons fait appel à des informateurs clés, en commençant par un officier de liaison expérimenté de RDDC Toronto qui avait été affecté à plusieurs missions à l'étranger. Les entrevues ont été menées par des intervieweurs chevronnés qui étaient attentifs – et prêts à réagir – aux signes de détresse que pouvait manifester un sujet interrogé en relatant certains événements. Les transcriptions des entrevues ont été dactylographiées et les renseignements signalétiques personnels en ont été supprimés. Chaque transcription a été ensuite envoyée à la personne interrogée afin que celle-ci puisse en réviser le contenu avant d'approuver sa publication et son inclusion.

Par la suite, les transcriptions ont été analysées en fonction d'un système de codage initial tiré de références clés concernant les émotions morales, l'intensité morale et la pensée contrefactuelle. Deux évaluateurs ont étalonné leur codage sur un sous-ensemble d'extraits, puis ils ont perfectionné le système pour en éliminer les ambiguïtés et les erreurs de correspondance. Le codage initial a indiqué la nécessité de créer plusieurs catégories d'émotions morales outre celles qui figurent dans le modèle original de Haidt, plus précisément pour traiter la question de l'honneur dans le contexte de la profession des armes elle-même. Un ensemble élargi de dimensions a été élaboré. Le système de codage révisé a ensuite été appliqué à l'ensemble complet de dilemmes moraux et éthiques d'ordre opérationnel.

**Résultats :** Le coefficient d'objectivité (analyse statistique Kappa) du codage de la totalité des transcriptions d'entrevues était bon, à savoir 0,85. Le nombre moyen de codes créés dans l'ensemble des comptes rendus était 6, et en moyenne trois émotions morales et trois dimensions de l'intensité morale ont été codées par transcription. Dans l'ensemble des comptes rendus, trois cas de pensée contrefactuelle positive et trois cas de pensée contrefactuelle négative ont été codés.

Les dimensions de l'intensité morale les plus fréquemment codées étaient les suivantes : l'ampleur des conséquences, la proximité de la victime ou de la situation, la probabilité de l'effet (c.-à-d. la probabilité prévue selon laquelle le résultat se produirait effectivement) et l'immédiateté temporelle de l'événement moral. Les dimensions de l'intensité morale les moins souvent mentionnées étaient la concentration de l'effet (le nombre de personnes touchées par l'événement) et le consensus social. Dans l'ensemble des comptes rendus, les émotions morales les plus souvent invoquées par les interrogés se rapportaient à leur propre conscience, à leur propre honneur, au déshonneur des autres et au sentiment de détresse devant la détresse d'autrui. Les émotions morales les moins souvent invoquées étaient l'admiration, l'élévation, la honte/la gêne et la culpabilité.

En ce qui concerne l'intégration ou la résolution psychologique de l'événement, 19 des comptes rendus dénotaient une résolution émotionnelle et cognitive, alors que sept ont été jugés irrésolus. Les comptes rendus codés comme étant irrésolus ont reçu un nombre total de codes plus élevé que dans le cas des comptes rendus jugés résolus (moyenne = 9,43 vs 5,95). Cette différence de moyenne était surtout attribuable à un nombre plus élevé d'émotions morales, et non à un nombre plus élevé de dimensions de l'intensité morale. En outre, une proportion plus forte de comptes rendus irrésolus que de comptes rendus résolus incluait le mépris, la colère, le déshonneur des autres, le sentiment de détresse devant la détresse d'autrui, l'ampleur des conséquences, la proximité, la probabilité de l'effet et l'immédiateté temporelle. Étonnamment, nous avons aussi remarqué une proportion légèrement plus élevée de comptes rendus irrésolus qui mentionnaient l'honneur et la fierté personnels, comparativement aux comptes rendus résolus. Enfin, même si les cas de pensée contrefactuelle étaient rares, comme on pouvait s'y attendre, la plupart des cas de pensée contrefactuelle positive (où le résultat imaginé était meilleur que le résultat réel), ont été codés dans les comptes rendus irrésolus, et tous les cas de pensée contrefactuelle négative (où le résultat imaginé était pire que le résultat réel) ont été codés dans les comptes rendus ayant fait l'objet d'une résolution psychologique.

**Importance :** Cette étude est l'une des premières à appliquer directement d'importants cadres conceptuels de la documentation sur la prise de décisions morales et éthiques à des comptes rendus de première main provenant de militaires qui ont fait face à des dilemmes moraux et éthiques lors d'opérations. Elle offre donc de précieuses indications sur les principales

dimensions morales et éthiques en jeu dans une gamme de contextes opérationnels et sur les émotions les plus souvent invoquées en réponse à ces dilemmes moraux. Il s'agit assurément de la première recherche qui intègre ces cadres conceptuels centraux du domaine moral et éthique, la documentation sur la pensée contrefactuelle et les conséquences sur les plans du stress psychologique, de la réaction face au stress, de l'adaptation et de la résilience dans un contexte militaire.

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# 1 Introduction

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*... The problem we confronted in a lot of the operations that we did was [that it was] a lose-lose situation, a wrong-wrong. Its where no matter what you decide to do someone is going to die. And you're basically confronted with choosing the lesser of two evils. And that puts you into an enormous ethical dilemma and enormous stress that I think is at the root of much of the psychological problems that a lot of people suffered on operations ...*

Military operations have always held the potential for raising moral and ethical issues, that is, issues that implicate the interest or well-being of others (Velasquez & Rostankowski, 1985). In this sense, military personnel have always been moral agents in that their actions often have had profound effects on the welfare of others (Jones, 1991). Indeed, the profession of arms is one of only a handful of exceptional professions which explicitly and routinely involve decisions and actions with life and death consequences.

Recent military operations have presented personnel with increasing demands with respect to moral and ethical decision making. For instance, in many asymmetrical threats, often a defining feature of recent missions, "... non-nation-state actors (terrorists, international and trans-national criminal organizations, or insurgents) ... take advantage of weak states for refuge" (Grange, 2000), attacking and then hiding as a member of the local populace. In these cases, whether through intimidation or sympathy, it can often be difficult to distinguish combatants from civilians. Further, the relatively recent Joint, Interagency, Multinational<sup>1</sup> framework, also referred to as the comprehensive approach to operations (Jackson & Gordon, 2007; Spence, 2002), calls for militaries to work in increasing coordination with other agencies and organizations that may have very different goals, mandates, and primary missions. Within this framework, countries continue to participate in coalition operations with other militaries that may adhere to different rules of engagement (ROEs). Together, these factors can increase the complexity of current missions and the likelihood that military personnel may encounter operational circumstances that may result in ethical dilemmas. Borrowing from and expanding upon the precepts of the Conflict Theory of Decision Making (Janis & Mann, 1997; Miller, 1944), we define operational moral dilemmas as a special class of decision in which operational circumstances entail at least two core attitudes or values that are in conflict, where two outcomes are equally undesirable and simply leaving the situation is not possible (see also Cofer & Appley, 1964).

The current research explores the first-hand accounts of experienced Canadian Forces personnel who confronted moral and ethical dilemmas in the course of operations. More specifically, we apply two central conceptual frameworks from the moral and ethical decision making literature, analyzing the accounts for the existence and nature of the dimensions of moral intensity (Jones, 1991) and the moral emotions (e.g., Haidt, 2003) generated in the course of semi-structured interviews. We also explore the interviews for evidence of counterfactual thinking, defined as "alternate versions of the past" (Roese, 1997, p. 133) that lead to alternative outcomes than what actually occurred. Counterfactuals are relevant to the discussion of moral dilemmas in that research shows their presence in recollections is tied to psychological adaptation after major negative events (e.g., Davis, Lehman, Wortman, Silver, & Thompson, 1995; Gilbar & Hevrone, 2007). Pursuing this association, we also begin to explore the links

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<sup>1</sup> Although referred to as JIM in the United States, this concept includes a Public component in other countries such as Canada and is referred to as JIMP.

between these various conceptual frameworks and the apparent psychological resolution evident in these accounts.

While the majority of the research associated with these moral and ethical frameworks is largely based on the responses of student samples to hypothetical scenarios, the current work sought to understand these constructs in the context of the first hand accounts of the moral and ethical dilemmas actually faced by military commanders during overseas missions. Note that the original interview protocol was semi-structured and designed to allow the interviewee to describe the event, as well as the factors that influenced the decision in detail, but did not explicitly examine the underlying moral and ethical frameworks, or counterfactuals. Thus all coded utterances concerning moral intensity, moral emotions, and counterfactuals were spontaneous in nature. Importantly, while these moral and ethical models and the counterfactual area each have a body of empirical research associated with them, the current research is one of the first efforts to integrate the moral intensity, moral emotions, counterfactual, and psychological resiliency literatures together. We begin with an overview of the key constructs under consideration.

## 1.1 Moral Intensity

Jones (1991) Issue Contingent Model of moral decision making seeks to expand upon previous models of ethical decision making by addressing the factors inherent in the moral issue under consideration. Accordingly, moral intensity is multidimensional and variable according to the specifics of the situation. Its constituent dimensions represent the characteristics of an issue itself that constitute the moral imperative or impetus the person experiences in the situation (Morris & McDonald, 1995).

Six dimensions or characteristics of the situation collectively comprise moral intensity. *Magnitude of Consequences* is defined as the sum of all of the harm or benefits to the recipient(s) of the moral act. *Social Consensus* is the degree of social agreement that a proposed act is good or evil. *Probability of Effect* refers to the likelihood that the event actually will take place and will cause the harm or benefit predicted. *Temporal Immediacy* involves the length of time between the present and the anticipated onset of the moral act. *Proximity* is the social, cultural, physical, or psychological feeling of nearness to the victims/beneficiaries of the moral act in question. Finally, *Concentration of Effect* is an inverse function of the number of people affected by an act of a given magnitude (e.g., cheating an individual or small group of persons out of a given sum of money has a more concentrated effect than cheating an institutional entity, such as a corporation or government agency, out of the same sum of money). Importantly, “[a]s the moral intensity of a situation increases, awareness of the ethical nature of the situation should increase; judgments regarding the appropriate action to be taken in the situation should lean more toward ethical action; behavioral intention should be to act in a more ethical manner; and behavior should be more ethical” (McMahon & Harvey, 2006, p. 352). While influential on their own, these characteristics are also assumed to interact with each other as well as with other variables such as individual level of moral development (Jones, 1991).

Research in the area has shown that, although not always equally impactful, moral intensity dimensions do indeed affect responses at all stages of the moral and ethical decision making process, including moral recognition, moral evaluation, and moral intention (e.g., Barnett, 2001; Leitsch, 2006; Morris & McDonald, 1995; McMahon & Harvey, 2006; Singer, Mitchell, & Turner, 1998; Singhapakdi, Vitell, and Kraft, 1996; Tsalikis, Seaton, & Shepherd, 2008; see May and Pauli 2002 for a summary). Across studies, Magnitude of Consequences and Social Consensus are the most consistent factors affecting moral judgments, followed by Proximity (Jaffe & Paternak, 2006). Taken together then, we expect that the spontaneous accounts of the moral dilemmas these officers encountered on operations to include

reference to moral intensity dimensions; in particular Magnitude of Consequences, Social Consensus, and Proximity should be evident in these accounts.

## 1.2 Moral Emotions

Moral emotions are thought to be a function of an innate ability to empathize with, and to respond to the thoughts and feelings of others (Hoffman, 1991), although they are also acknowledged to be influenced by socialization (Eisenberg, 2000). Specifically linked to situations involving the well-being or interests of others, this set of emotions is largely experienced in response to moral violations (Haidt, 2003) and are assumed to include an array of discreet affective responses that have distinct psychological bases and action tendencies (Haidt, 2003; Mikula, Scherer, & Athenstaedt, 1998; Pagano & Hua, 2007).

There are five general categories of moral emotions (Eisenberg, 2000; Haidt, 2003). *Other Condemning* emotions include Contempt, in which the perceiver looks down on someone else and has a sense of their moral inferiority, for instance where another person or group has failed to live up to standards. Anger ensues as a result of a perceived unjustified attack on another, or based on a betrayal, insult, or unfair treatment. Disgust involves revulsion, a visceral rejection that is linked to violations of physical or moral laws or norms. *Self-Condemning* emotions include shame or embarrassment based on a perceived failure to live up to general standards of morality, and is often invoked after perceiving that the self has failed to behave properly in relation to higher status individuals. A second self-condemning emotion is Guilt which occurs in response to a violation of general moral norms or imperatives that are perceived to cause harm, loss, or distress to others who are of equal status and with whom the actors shares a communal relationship. *Other Suffering* emotions involve feeling bad when others are hurt, sometimes leading to a motivation to help. These include Distress at Another's Distress, which Haidt (2003) contends is not a true emotion, but rather an affective precursor of sympathy or compassion, which involves understanding and being moved by another's suffering or misery and desiring to act in order to alleviate the suffering. *Other Praising* emotions, conversely, involve an emotional sensitivity to good deeds and moral exemplars. Such emotions include Awe, in which there is a positive feeling in response to the presence of an ideal, such as being deeply moved hearing about acts of kindness and charity. Similarly, Elevation is a positive feeling that ensues as a result of witnessing evidence of humanity's higher or better nature. Acts of charity or kindness, or instances of self-sacrifice are said to be powerful elicitors of Elevation (Haidt, 2003). *Self-Praising* emotions include feelings of Conscience, that is a general sense of right or wrong, Pride in achievement in which the moral agent experiences a sense or feeling of satisfaction and achievement in an accomplishment, and Integrity which is a result of honesty, truthfulness, reliability, and moral uprightness (Haidt, 2003).

### 1.2.1 Honor as a Moral Emotion in the Profession of Arms

An initial review of the transcripts of these military commanders indicated the need for additional moral emotion categories beyond those outlined in Haidt's original model. In particular, we felt, that there was a need to specifically address the issue of the positive and negative aspects associated with Honor within the context of the profession of arms itself. Honor is a central military construct, figuring prominently in documents such as the United States Army Field Manual 1 (2003), and *Duty with Honor* (2005), the cornerstone document in the professional development system for the Canadian Forces. French (2005) eloquently describes the nature and important role of honor within the profession of arms:

In many cases this code of honor seems to hold the warrior to a higher ethical standard than that required for an ordinary citizen within the general population of the society the warrior serves. The code is not imposed from the outside. The warriors themselves police strict adherence to these standards; with violators being shamed, ostracized, or even killed by their peers ... The code of the warrior not only defines how he should interact with his own warrior comrades, but also how he should treat other members of his society, his enemies, and the people he conquers. The code restrains the warrior. It sets boundaries on his behavior. It distinguishes honorable acts from shameful acts. ... Accepting certain constraints as a moral duty, even when it is inconvenient or inefficient to do so, allows warriors to hold onto their humanity while experiencing the horror of war ...

Like other moral emotions, we conceptualize honor to be a function of an innate ability to empathize with, and to respond to the thoughts and feelings of others (Hoffman, 1991), and to be linked to situations involving the well-being or interests of others. Moreover, consistent with the defining characteristics of moral emotions, it was clear that our respondents' experienced strong emotions in response to perceived moral violations (Haidt, 2003), whether these violations were the deeds of others or of themselves.

Also consistent with the definition of moral emotions, honor is rooted within the socialization of military personnel, beginning with the swearing of allegiance which "... instills a nobility of purpose within each member of the Armed Forces and provides deep personal meaning to all who serve" (United States Army Field Manual 1, 2005). The Canadian Forces *Duty with Honor* (2003) lays out the important relationships between values, military ethos, and honor.

... [M]ilitary ethos comprises values, beliefs, and expectations that reflect core Canadian values, the imperatives of military professionalism, and the requirements of operations. It acts as the centre of gravity for the military profession and establishes an ethical framework for the professional conduct of military operations. (p. 24). ... "Honour is earned by the men and women of the Canadian Forces when they uphold the values and beliefs of the Canadian military ethos .(p. 31)

The following statement of one of our interviewees is entirely consistent with these documents and provides perhaps the most powerful and evocative evidence of our thinking concerning honor as a distinct moral emotion relevant to the profession of arms.

*I am a professional; I eat, sleep, and breathe the profession... I believe the warrior ethos ... It's all about discipline and commitment and self sacrifice... this feeling of greater good...I had always upheld that you die for the regiment. Battalion first, yourself second. I remember thinking on patrol, "I am a (CF REGIMENT)," ...I think it was that feeling of greater good.*

In sum then, we propose that Honor represents an emotion in that it is intense and central to the identity of individuals as members of the profession of arms. Honor represents a moral emotion in that it is intimately associated with attitudes and behaviors concerning the welfare of others. While grounded in and consistent with values associated with being a member of a particular nation, Honor is also uniquely associated with membership in the profession of arms. Moreover, similar to several of the Haidt's original moral emotions, violations of honor linked to the profession of arms trigger intense negative emotions that are tied to core values and beliefs associated with that identity.

Research confirms that moral emotions are linked to affective regulation and moral actions (see Eisenberg, 2000). For instance, one theory depicts socio-moral emotions as motivators that induce people to act in ways that will sustain and promote their social relationships (Fiske, 2002). Similarly, guilt has also been associated with increases in cooperation in social bargaining games (Ketelaar, & Au 2003). Indeed, even thinking about a past transgression against another and imagining various outcomes (forgiveness, no forgiveness, reconciliation) was associated with variations in the imaginer's moral emotions (i.e., less guilt and shame in the reconciliation condition) (Witvliet, Ludwig, & Bauer, 2002).

Nor do the transgressions triggering moral emotions need be committed by the respondent themselves. In a particularly intriguing study, guilt over the U.S. invasion of Iraq led American students to support political efforts that would involve war reparations by the States to Iraq, whereas higher levels of moral outrage were the best predictor the support for actions such as punishing Saddam Hussein and his regime, further supporting that particular emotions are linked with specific action intentions (Pagano & Huo, 2007). Given this body of research, we anticipate that moral emotions in each of the general categories will be evident in the operational accounts of these military commanders. Further, we hypothesize that a higher number of negatively valenced emotions, including both other- and self-condemning moral emotions will be present in the accounts of commanders for whom the event remains psychologically unresolved.

### **1.3 Counterfactual Thinking**

Counterfactuals are “alternate versions of the past” (Roese, 1997, p. 133): essentially they are ‘what if’ or ‘if only’ statements that describe an alternative course of action that leads to a different outcome than what actually occurred (Roese, 1997). They are usually generated in response to unpleasant affect (e.g., anger, disappointment depression), and the specific content of the counterfactual (i.e., the imagined alternative) is linked primarily to actions that represent a deviation from normal behavior, actions rather than inaction and antecedents that are within the imaginer's perceived control (Roese, 1997).

Generated by people with direct involvement in an event, or by those who witness an event (e.g., Branscombe, Wohl, Owen, Allison, & N'gbala, 2003), counterfactuals can determine the intensity and the content of people's affective reactions to event outcomes (Davis, Lehman, Wortman, Silver, & Thompson, 1995; Sevdalis & Kokkinaki, 2006). Recall, the previously cited research in which thinking about a past transgression against another and imagining different outcomes (forgiveness, no forgiveness, reconciliation) was associated with variations in the imaginers resulting moral emotions, for instance, the generation of less guilt and shame in the reconciliation condition (Witvliet, et al., 2002).

Moreover, upward counterfactuals in which imagined alternative circumstances that are evaluatively better than reality (i.e., “If I had only done this, or if this circumstance had occurred, then the outcome would have been so much better than what actually happened”) are more likely to be associated with negative emotions than are downward counterfactuals (evaluatively worse outcomes than what actually occurred, “... it could have been worse”, for instance a close call, or a narrowly avoided negative outcome, [see Davis, et. al., 1995]). Despite their associated negative affect, upward counterfactuals are thought to be ultimately beneficial as they appear to have a homeostatic function in terms of self-esteem and mood regulation (Sanna, Turley-Ames, & Meier, 1999; White & Lehman, 2005), and can provide ideas and options for future actions that would be associated with efficacious behavior and outcomes (Roese, 1997). So while the past cannot be changed, having thought about these options can help trigger improvements in the future.

Research also reveals that counterfactuals occur in the case of individuals who have experienced past traumatic events that cannot be undone, and also suggests the relationship between the existence of upward counterfactuals and poorer stress and coping outcomes. For instance, the recollections of individuals who had suffered the loss of a spouse or child in a car accident or whose child had died from Sudden Infant Death Syndrome often included counterfactuals that usually focused on their own behaviors (or inaction), rather than on the behavior of others. Moreover, a greater frequency of counterfactuals that “undid” the event is also related to higher distress among the respondents (Davis et al., 1995). Other research has shown that rape victims who generated more upward counterfactuals also engaged in greater self-blame and had lower levels of well-being (Branscombe et al., 2003). Similarly, breast cancer patients who used a high level of upward counterfactual thinking were found to have a high level of psychological distress, although level of downward counterfactual thinking was unrelated to level of psychological distress (Gilbar & Hevroni, 2007). Integrating this literature we expect that counterfactual thinking will be evident in at least some of the interview transcripts. Moreover, we anticipate that instances of upward counterfactual thinking will be associated with the presence of more negative moral emotions, in particular, self-condemning emotions such as shame and regret and also with accounts that show less psychological resolution with respect to the event.

## 1.4 Psychological Resolution

Operationally defining psychological resolution presented a challenge in the current research. First, the original interview study was directed primarily toward an exploration of moral and ethical decision making. Thus, scales of psychological distress/adaptation were not included in the original research. Moreover, many definitions of psychological well-being explicitly refer to negative emotions, presenting a confound with some of the moral emotions. Thus, we returned to some seminal research concerning the impact of negative life events on individuals’ world views. According to Janoff-Bulman “[a]t the core of our internal world, we hold basic views of ourselves and our external world that ... are guides for our day-to-day thoughts and behaviors” (Janoff-Bulman, 1992, p. 4). These basic assumptions are our beliefs about the nature of the world and people, the sense that there is some meaning to life and that we are good people. Experiencing a major negative life event is often associated with a disruption of these world views, for instance such an event may shatter people’s views that they live in an orderly, understandable and meaningful world. Coping and recovery often involve “an arduous task of reconstructing the assumptive world, a task that requires a delicate balance between confronting and avoiding trauma-related thoughts, feelings and images (Janoff-Bulman, 1992, p. 169). Certainly research has shown that the extent to which respondents who are unable to find meaning in their experience or to integrate the event within the overall context of their lives have lower levels of psychosocial adjustment (e.g., Davis, Nolen-Hoeksema, & Larson, 1998; Holman & Silver, 1998; McCammon, Durham, Allison, & Williamson, 1988; Silver, Boon & Stones, 1983).

In the current research then, we reviewed the transcripts for evidence of disrupted or shattered assumptions about the world, other people, or the self, as well as continued confusion or negative ruminations concerning the event that do not appear to be resolved within the context of the interview. For instance, we coded transcripts for phrases that explicitly stated or generally suggested that the event or the world still does not make sense, that the interviewee continues to struggle to deal with, or recover from the event, or that the world is not the same in some negative way as an account that remained unresolved. Also, consistent with the tenets of Acceptance and Commitment Therapy (see Orsillo, Roemer, & Holowka, 2005), in the current research psychological resolution was also defined as accounts that involved statements indicating acceptance (as opposed to resignation) about the events, with the sense that the person is able to recall the incidents with some perspective on the events,

thoughts, sensations, and feelings. For instance, an example of a resolved event is evident in the following excerpt

*...But I can look at myself in the mirror and say I did everything I could possibly do to protect those people...*

Conversely, the following speaker still struggles with the events that occurred to him.

*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.*

## 2 Method

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### 2.1 Participants

The current analyses were conducted on a previous in-depth interview data set (see Thomson, Adams, & Sartori, 2005). In that study 15 senior (Major, LCol, Col General or equivalent ranks) current or former Canadian Forces personnel (7 retired, 8 active duty, 13 Army, 2 Navy) were identified as potential participants using a key informant approach (i.e., respondents were not selected based on random sample, but rather for their expertise and experience (Campbell, 1955, see also Denzin & Lincoln, 2005; Miles & Huberman, 1994) by an experienced military liaison officer at DRDC Toronto who had served on multiple overseas deployments.<sup>2</sup>

### 2.2 Procedure

In the original interview study potential participants were approached via telephone call and a subsequent introductory letter that outlined the aims of the study. On the basis of this initial contact a time and place for the interview was arranged. The interview session began with a review of the aims and benefits of the study and the right of the participants to take a break, suspend or end the interview at any time. The interviews were conducted by research team personnel who paid particular attention to any potential distress experienced by the interviewee in recounting events or responding to interviewer questions. Interviewers were also careful to ask interviewees if they wished to momentarily stop or to terminate the interview should any distress be evidenced. Interviewers also had information on support services available to interviewees if asked. Although at times emotional, no interviews were terminated by either the interviewees or interviewers and, to the best of our knowledge, none of the participants required follow-up referrals as a result of the interviews. All research procedures and questions utilized in this research were reviewed and approved by the Human Research Ethics Committee of Defence Research and Development Canada.

During the interviews, participants recounted at least one operational experience in which they had encountered a moral and ethical dilemma. All interviews were transcribed and researchers removed all potentially personally identifying information. A transcript of the interview was then provided to that interviewee (i.e., at this point interviewees saw only the transcript of their own interview) who was able to make any further changes or deletions to the interview. Each interviewee gave their approval for the use of the transcript as part of this research project.

A total of 33 initial incidents were collected in the course of the original interview study. Of these, 27 incidents were deemed to be operational accounts, as well as specific and long enough to be amenable to coding. The final transcripts covered commanders' experiences from theatres of operation in Bosnia, Rwanda, Somalia, Haiti, and the Middle East. The nature of the experiences recounted covered a range of moral dilemmas in operations. These accounts included decisions concerning force protection versus civilian body recovery; response to snipers; military exfil<sup>3</sup> vs. leaving civilian aid workers; deciding which civilians be delivered to safe havens; use of force to protect innocent civilians while staying

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<sup>2</sup> Due to the small sample size and the small sample size of the population of the Canadian Forces in general and senior CF officers in particular, the decision was made not to reveal other demographics concerning our sample, lest it interfere with our ability to protect the identity and anonymity of our participants.

<sup>3</sup> Exfiltrate or exiting an area, usually within enemy territory.



within existing and restrictive rules of engagement that limited such intervention; dealing 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; the dilemma of offering assistance and refuge to refugees under conditions of severely limited resources or in defiance of rules of engagement, and dealing with genocide. The following excerpts from two of our respondents give a sense of the type of incidents experienced by our participants.

*I took a family one day to [a safe building] and about thirty-six hours later they were all dead from cholera. If I hadn't taken them to the [safe building] would they have lived? Hidden in a basement of a home in [that city] 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 of cholera because I took them to a place that was a hell hole – but I had no other place to take them. So do I leave them where militia can chop them apart...which way is better to die?*

*The decision was where do you go next? Whose life or whose village do you protect today? I found that hard. I found it...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 pre-war 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. ...*

## 3 Results

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### 3.1 Overview

Each of the transcripts was analyzed for evidence of the presence and type of moral intensity, moral emotions, counterfactual thinking, and psychological resolution, according to definitions for these respective literatures, as outlined in Tables 1 through 3.

*Table 1: Moral Intensity Dimensions and Definitions.*

Moral Intensity Dimension	Definition
Magnitude of Consequences	The sum of all of the harm or benefits to the recipient(s) of the moral act.
Social consensus	The degree of social agreement that a proposed act is good or evil.
Probability of effect	The likelihood that the event will take place and will cause the harm or benefit predicted.
Temporal Immediacy	The length of time between the present and the anticipated onset of the moral act.
Proximity	A feeling of nearness [social, cultural, physical, or psychological] to the victims/beneficiaries of the moral act in question.
Concentration of effect	An inverse function of the number of people affected by an act of a given magnitude, e.g., cheating an individual or small group of persons out of a given sum of money has a more concentrated effect than cheating an institutional entity, such as a corporation or government agency, out of the same sum of money.

Table 2: Moral Emotion Categories, Emotions, and Definitions.

Moral Emotion Category	Emotion	Definition
Other Condemning	Contempt	Looking down on someone, a sense of their moral inferiority, other person does not measure up.
	Anger	As a unjustified attacks on others, betrayal, insult, unfair treatment of others, often linked to honor as well.
	Disgust	A visceral rejection of violations of physical or moral laws, norms, indignation, loathing.
	<i>Dishonor – Other</i>	Contempt or disgust based on the perception that another military person/group has failed to live up to standards, values, indicative of the profession of arms.
Self-Condemning	Shame/embarrassment	A perceived failure to live up to general standards of morality, often WRT behaving properly in relation to higher status individuals.
	Guilt	A violation of general moral norms or imperatives that are perceived harm loss, or distress to those with equal status others whom there is a communal relationship.
	<i>Dishonor – Own</i>	Feelings of dishonor or shame tied to the perception of failing to live up to standards, values, indicative of the profession of arms.
	<i>Regret</i>	Apologetic, feel sorry, be repentant.
Other Suffering	Distress At Another’s Distress (DAAD)	According to Haidt not a true emotion but rather an affective precursor of sympathy compassion.
	Sympathy/Compassion	Understanding and being moved by another’s misery or suffering and desiring to promote its alleviation.
Other Praising	Awe	Feeling of amazement in presence of an ideal of some sort, being deeply moved hearing about acts of kindness and charity.
	Elevation	A positive feeling as a result of seeing evidence of humanity’s higher or better nature. Acts of charity, kindness, self-sacrifice are powerful elicitors.
	<i>Honor – Other</i>	Feelings of admiration based on the perception of another as having lived up to the standards and values associated with the profession of arms.
Self Praising	Pride in Achievement	A moral agent’s feelings of satisfaction and achievement in an accomplishment.
	Integrity	Honesty, truthfulness, honor, veracity, reliability, uprightness.
	Conscience	A general sense of right or wrong, scruples, as a Canadian, human being.
	<i>Honor– Own</i>	Perception self as having lived up to the standards and values associated with the profession of arms.

Note: Moral emotions in italics were added for this study.

Table 3: Counterfactual Categories, Definitions, and Examples

Upward Counterfactuals	The imagined alternative circumstances lead to a better outcome better than reality	e.g., "... if only I had done that."
Downward Counterfactuals:	The alternative circumstance lead to an evaluatively worse than actuality	e.g., "... it could have been worse."

Two independent coders calibrated their coding on a small subset of interview excerpts and refined their coding scheme where initial ambiguity and mismatches occurred. The refined coding scheme was then applied to the full set of operational accounts. Average inter-rater reliability for the complete set of transcripts, calculated via the Cohen's kappa statistic (Cohen, 1960; Fleiss, 1981) was excellent at .85, with a range of .74 -1.0<sup>4</sup>.

For simplicity, we made a decision that each code would be applied only once per interview even if the transcript made more than one reference to it. Thus, the number of total possible codes per account was 25 (seventeen moral emotions, six moral intensity dimensions, two counterfactuals). Using this rubric, there was an average of 6.89 codes per account, with a range of between one and thirteen codes per account. Nineteen accounts were coded as showing evidence of psychological resolution and or acceptance, while seven accounts showed evidence of a lack of psychological resolution concerning the event. This basic comparison revealed a higher number of codes invoked for unresolved vs. resolved accounts (means = 9.43 vs. 5.95, [with ranges of 6-13 and 1-11] respectively).

We next explore moral and ethical framework and counterfactual thinking more specifically. Beginning with the moral intensity dimensions we first present the number and type of moral intensity dimensions evident across all of the accounts. We then turn our attention to exploring whether there were differences between the resolved and unresolved accounts. As some respondents provided more than one account, we could not assume independence for the accounts, and thus, we could not perform statistical tests to determine the relation of the codes to psychological resolution. Still, examination of the proportions of codes evident within resolved versus non-resolved accounts (e.g., number of magnitude of effect codes within the resolved accounts divided by the number of resolved accounts, etc.) is an informative first step. We then repeat these analyses for moral emotions and counterfactuals.

### 3.2 Moral Intensity

The average number of moral intensity dimensions across all accounts was 3.76 with a range of 0-6 codes and the mean moral intensity across codes was about equal for resolved accounts and the unresolved accounts (mean's = 3.26 vs. 3.57, ranges of 0-5 and 1-5, for resolved and unresolved accounts, respectively). As Table 4 shows, across accounts the most often invoked moral intensity dimensions were Magnitude of Consequences (occurring 24 times); Proximity (20), Probability of Effect (18) and Temporal Immediacy (17). The least often utilized moral intensity dimensions were Concentration of Effect (1) Social Consensus (7). As well, the overall pattern of moral intensity codes was similar for the resolved and the unresolved accounts. That is, magnitude of consequences was coded most frequently, and concentration of effect was coded the least frequently in both resolved and unresolved accounts.

<sup>4</sup> Fleiss (1981) characterized kappas of .60 to .75 as good and over .75 as excellent.

However, a closer examination reveals some differences between the resolved and unresolved accounts. These findings, also reported in Table 4, reveal that Magnitude of Consequences, Proximity, Probability of Effect, and Temporal Immediacy were all coded as occurring in a higher proportion of the unresolved versus the resolved accounts. There were only two exceptions to this pattern: social consensus (which appeared in only seven of the accounts) was coded as present in 32 % of the resolved versus 14% of the unresolved accounts, and concentration of effect which appeared in only one of the resolved and no unresolved accounts.

*Table 4: Number of Codes across Accounts and Proportion of Moral Intensity Dimensions within Resolved and Unresolved Account*

Moral Intensity Dimension	Number	Proportion		
	Overall (N=26)	Overall (N=26)	Resolved (N=19)	Unresolved (N=7)
Magnitude of Consequences	24	92	89	100
Proximity	20	77	74	86
Probability of Effect	18	69	63	86
Temporal Immediacy	17	65	63	71
Social Consensus	7	27	32	14
Concentration of Effect	1	04	05	0

### 3.3 Moral Emotions

The average number of moral emotions appearing across the 27 accounts was 3 (range 0-9). As Table 5 shows, the most often appearing moral emotion codes across all accounts were Own Conscientiousness (18), Own Honor (12), Others Dishonor (11), Contempt (7), Anger (7), Compassion (7), and Distress at Another's Distress (6). The least often coded moral emotions were Awe (0); Elevation (0); Shame/Embarrassment (1), and Regret (1), although Guilt and Disgust were also relatively rarely appearing.

Descriptive results further revealed that more moral emotions appeared in the unresolved as opposed to the resolved accounts (means = resolved: 2.47, unresolved: 5.57, with ranges of 0-6 and 3-9, respectively). We then investigated the proportion of moral emotions that appeared in the resolved versus unresolved accounts of these military commanders. As Table 5 reveals, in comparison to the resolved accounts, the unresolved accounts were distinguished by much higher proportions of several moral negative emotions including Others Dishonor, Contempt, Anger, Distress at Another's Distress. However, as Table 5 also reveals the unresolved accounts unexpectedly also tended to have a somewhat higher proportion of self-praising emotions such as own Honor, and Pride.

Table 5: Number of Moral Emotions across Accounts and Proportion of Moral Emotions within Resolved and Unresolved Accounts

Moral Emotion Category	Emotion	Total Number (N=26)	Proportion		
			Overall (N=26)	Resolved (N=19)	Unresolved (N=7)
Other Condemning	Others Dishonor	11	42	32	71
	Contempt	7	27	16	57
	Anger	7	27	16	57
	Disgust	3	12	5	29
Self-Condemning	Own Dishonor	1	4	0	14
	Shame/Embarrassment	1	4	5	0
	Guilt	2	8	0	29
	Regret	1	4	0	14
Other Suffering	Distress at Another's Distress	6	23	11	57
	Compassion	7	27	26	29
Other Praising	Others Honor	4	15	11	29
	Awe	0	0	0	0
	Elevation	0	0	0	0
Self-Praising	Own Honor	12	46	42	57
	Pride	4	15	11	29
	Integrity	2	8	5	14
	Own Conscientiousness	18	69	68	71

### 3.4 Counterfactual Thinking

Overall there was little evidence of counterfactual thinking in these accounts, occurring just 6 times in the data set. Three instances of upward counterfactuals occurred across all accounts with one upward counterfactual appearing in the resolved accounts (i.e., 5% of all of the resolved accounts) and two instances of upward counterfactuals occurring in the unresolved accounts (representing 29% of all unresolved accounts). There were also three instances of downward counterfactuals that were coded, with all of these occurring in the resolved accounts (representing 16% of all of the resolved accounts).

## 4 Discussion

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This report begins to apply moral and ethical conceptual frameworks to the experiences of CF commanders who confronted moral and ethical dilemmas during military deployments. Specifically, we were interested in the number and type of moral intensity dimensions, moral emotions, and counterfactual thinking that would be evident in the spontaneously recounted experiences of senior commanders who had experienced such moral and ethical dilemmas while deployed. We were also interested in whether there would exist differences in terms of these same conceptual frameworks between accounts that showed psychological resolution or acceptance and those accounts that implied such resolution had not yet fully occurred. To this end we applied a coding scheme based on the relevant literatures to the transcripts of a previous in-depth interview study (Thomson et al., 2006). We also expanded the original coding scheme based on these frameworks to include the concept of honour as it applies to the profession of arms.

Supporting our initial hypothesis concerning the presence and specific type of moral intensity dimensions that would be evident in these accounts and also consistent with the literature, the moral intensity dimensions of Magnitude of Consequences and Proximity were the most often coded across these accounts. However, these accounts differed from the general pattern evident in the literature in that Social Consensus was one of the least frequent of the moral intensity codes to be invoked. Although the reason for this is not clear, Social Consensus is defined as the degree of social agreement that a proposed act is good or evil. The straightforward explanation is that degree of social agreement was simply not explicitly stated in these accounts, although doing the right thing in terms of being a Canadian, a person, and a member of the profession of arms was certainly mentioned. Although these references could imply social consensus as to how to act, in the current coding scheme references to doing what is right in terms of being a Canadian or a human being were coded as Conscience and reference to doing the right thing as a military professional was coded as Honor. Results also showed that Temporal Immediacy appeared quite often in these accounts. Although this was not anticipated based upon the extant moral intensity literature, it was certainly clear that in each of these accounts the commanders were in the thick of unfolding situations that were demanding a need for immediate action, thus it is perhaps not surprising that this dimension was both salient and frequently mentioned.

We also anticipated that all classes of moral emotions (Self-Praising, Self-Condemning, Other Praising, Other Condemning, Other Suffering) would be evident in these accounts. This hypothesis was only partially supported. Specifically, we found that the most frequently coded moral emotions across all accounts included positive references to the interviewees' Own Conscientiousness and Honor (Self-Praising Emotions), as well as references to the Others Dishonour (Other Condemning Emotions), usually (although not always) concerning the actions of members of the militaries of other countries. The least often coded moral emotions in these accounts were Other Praising' Emotions of Awe and Elevation.

Spontaneously generated counterfactuals appeared rarely, with only three instances of upward counterfactuals and three instances of downward counterfactuals across all 27 accounts. Although certainly consistent with previous findings concerning counterfactuals, the very low incidence of counterfactuals coded in this study demand that the current results be interpreted as quite preliminary. Future research is definitely warranted to determine if these results can be replicated.

## 4.1 Resolved Versus Unresolved Accounts

We also sought to begin to determine if there were differences that might distinguish the unresolved and resolved accounts in terms of the moral intensity dimensions, moral emotions, and counterfactuals. We had no specific hypotheses concerning the overall number of codes or the moral intensity dimensions that might distinguish resolved from unresolved accounts. In the current study unresolved accounts contained more codes, overall. This finding may reflect the fact that unresolved accounts were simply longer than were the resolved accounts. This would not be particularly problematic however, as the length of the account may simply reflect the continued working through of the account, particularly if the difference in codes reflects differences in emotions. The current analyses also revealed that a higher proportion of unresolved accounts contained references to Magnitude of Consequences, Proximity, Probability of Effect, and Temporal Immediacy than did the resolved accounts. These results may reflect greater intensity of these dimensions objectively existed in the unresolved, relative to resolved moral situations recounted here. However, the results could also reflect the lack of psychological resolution that also appeared to be the case in these particular accounts. And again, it is important to recall that although there are absolute differences in the number of codes appearing in the resolved versus unresolved accounts, we cannot at this time conclude that these differences reflect statistically significant differences. Nonetheless, these differences certainly warrant replication and follow-up.

We also hypothesized that unresolved accounts of moral and ethical dilemmas would show evidence of more negative emotions overall and this hypothesis was largely supported. Unresolved accounts contained a greater proportion of Other Condemning Emotions such as Other's Dishonor and Distress at Another's Distress than was the case in the accounts coded as being psychologically resolved. These findings are certainly consistent with research suggesting that negative affect is a key characteristic of lingering psychological stress (e.g., Monson, Price, Rodriquez, Ripley, & Warner, 2004). An unanticipated finding, however, was that unresolved accounts also contained a higher proportion of Self-Praising Emotions codes reflecting Own Conscientiousness, and Honor, relative to the resolved accounts. Although it is not clear why this might be the case, one possible explanation is that these differences accurately reflect the difficult ethical choices and behaviors of these individuals in response to extremely difficult situations, especially if the moral intensity dimension results reflect objective differences. At this point this question remains unanswered and is left for future research to replicate and to address this issue more specifically. It is also important to note that these numbers reflect absolute differences, the small sample size, and the lack of independence of the accounts preclude making conclusions that these findings represent statistically significant differences.

Finally, as predicted unresolved accounts contained more upward counterfactuals than did those accounts deemed to be resolved. This finding is entirely consistent with the literature concerning counterfactual thinking. First, although relatively rare, counterfactuals are usually associated with negative events, which were represented in all of the events recounted by our participants. In particular, upward counterfactuals in which the person imagines an outcome that is better than the actual outcome, are more often associated with negative emotions and are also more likely to be evident in the accounts of individuals who have not fully recovered psychologically from or integrated a stressful experience within the full context of their lives. Both of these findings from the larger literature were similarly evident in the accounts of these military commanders, although again, the occurrence of counterfactuals in these accounts was rare.



## 4.2 Honor as a Moral Emotion

Reviewing the moral emotions literature, we felt that there was a need to specifically address the issue of the positive and negative aspects associated with honor within the context of the profession of arms itself. As outlined in the introduction of this report, our rationale is that the warrior's code of honor is a central military construct, intimately connected to the profession and its unique responsibilities, especially concerning the treatment of adversaries, and the principle of unlimited liability concerning self and one's comrades. Although reflecting a nation's values, members of the profession of arms are often held to a higher standard than are civilians (French, 2005). The importance of these principles to the morality, effectiveness, and identity of military personnel cannot be overemphasized – indeed, these are the foundations that separate a disciplined and moral fighting force from a savage and unrestrained gang. It is a central tenet introduced in basic training and forms the core of the profession of arms throughout a military career, and beyond.

We certainly saw evidence of this construct reflected in the accounts provided by these commanders. There were 4 accounts containing references to others behaving honourably in accordance with the profession of arms, and 12 accounts in which the commander who was retelling events was called upon and sought to act in ways that were consistent with the notion of honor in the profession of arms. We also saw some evidence of the negative side of this moral emotion, that is, dishonour. The following excerpt is just one of the 11 accounts coded as containing a reference to others behaving in a dishonourable manner relating specifically to the profession of arms.

*... it was disgusting. I found it almost unfathomable what people, the unprofessional soldiers, were doing over there to people. It was just totally, repulsively wrong and just struck that cord with me instantly. ... There was a complete break down in discipline, something happened. We didn't know. I mean, I just didn't expect it. I didn't have those standards for performance or discipline for soldiers wherever they were. So, it had to be dealt with ...*

Poignantly, there was also one instance which we coded as containing a reference to own dishonor

*...to know you are responsible in the end even for their lives or their death, you know, you put men and women in harms way that is a very big decision and you have to live with it...I failed my men, and I assumed the consequences. I quit the army. That was my whole life. ....*

This excerpt suggests that this commander believed that he had not lived up to the at least some of the high standards of the profession of arms and thus consistent with the current definition of 'Own Dishonor'. However, it is also of note that this commander also made the difficult decision to quit the army that was his 'whole life', as a result of the situation -- a response that is arguably a very honourable action.

## 4.3 Future Research

Although the link between the moral intensity, moral emotions, and counterfactual thinking literatures and psychological resolution outcomes is intriguing, the current results are quite preliminary. Recall that as some of these accounts were provided by the same military commander, they could not be considered independent, and thus were not amenable to statistical analyses. Still, the results provide interesting evidence of avenues to be pursued more fully in future research.

For instance, this research focused exclusively on the moral and ethical dilemmas experienced by senior Canadian Forces commanders. It is clear however, that such dilemmas are not the exclusive purview of senior levels of command, but may be encountered by military personnel of all ranks. Thus, our future work will also include the experiences of non-commissioned personnel, and junior officers to determine the consistencies and distinctions that may exist across the experiences of personnel of all ranks.

While in-depth, this study represents the experiences of a small sample of military personnel. Thus, future work would also benefit from an increased sample size, in order to accommodate quantitative analyses. Similarly, developing an expanded coding scheme that included scaled rater responses in some cases, rather than a 0 or 1 indicating the presence or lack of presence of a dimension, might also provide a richer and more nuanced data set and observations.

The current accounts cover a variety of operational settings including Somalia, Rwanda, Bosnia, Haiti, and the Middle East. Our future work will include the experiences of Afghanistan veterans, preferably within a year of their return from their tours. The Afghanistan mission represents a different mission type, one that is more explicitly warfighting, as well as humanitarian in nature and represents the majority of current international military commitment. Secondly, with less time between deployment and recounting experiences, it may allow for an examination of the impact of time on moral intensity, moral emotions, counterfactual thinking, and the psychological resolution of military personnel who have experienced moral dilemmas while deployed.

Future work might also benefit from an expanded coding scheme, exploring additional dimensions related to decision making and to psychological adaptation and resiliency including perceptions of control (e.g., Rotter, 1966; Troup & Dewe, 2002), responsibility (Weiner, 1995), and instances of positive and negative social support. For instance, one relatively consistent theme was the lack of support that these military commanders felt they received from higher levels of command back home, most often intermediate levels of command between the interviewee and the highest military rank. Perceptions of control and responsibility may also be important mediators of the relationships among these variables. Finally, the richness of these accounts also provides a great deal of direction in terms of potential themes to be pursued in subsequent survey research.

Beyond the rich areas of potential future research associated with the current study, the accounts provided by military personnel can become powerful training tools for operations. For instance, they could be used as a rich source of the types of moral and ethical dilemmas that are currently faced by CF personnel in the operations to which they deploy, and could provide compelling bases for discussions among deploying military units. Alternatively they could also provide useful educational tools to be integrated within applicable professional development courses. Indeed, the Army Ethics Program is investigating how the current accounts might be used in such a manner and enthusiastically endorses DRDC Toronto's continued work in this area.

## **4.4 Conclusion**

This work is one of the first directly applying important moral and ethical conceptual frameworks to the first-hand accounts of CF military commanders who have encountered such dilemmas while deployed on operations. As such, it provides important insights into the major moral and ethical dimensions at play in recent operational settings. More specifically, it sought to identify the primary moral intensity dimensions and the emotions most evoked in response to these moral dilemmas. It also explored the extent to which these accounts provided evidence of counterfactual thinking and psychological resolution. Certainly, it is among the first research that integrates these central conceptual frameworks

in the moral and ethical domain, the literature on counterfactuals and the consequences in terms of psychological stress, coping, adaptation and resiliency with a military context. Thus, the current work has laid important groundwork and set the stage for continued systematic investigations of the nature and of the consequences of the military ethical dilemmas.

## References

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- [1] Barnett, T. (2001). Dimensions of moral intensity and ethical decision making: An empirical study. *Journal of Applied Social Psychology, 31*, 1038-1057.
- [2] Branscombe, N. R., Wohl, M. J. A., Owen, S. Allison, J. A., & N'gbala, A. (2003). Counterfactual thinking, blame assignment, and well-being in rape victims. *Basic and Applied Social Psychology, 25*, 265 – 273.
- [3] Campbell, D. T. (1955). The informant in quantitative research. *The American Journal of Sociology, 60*, 339-342.
- [4] Cofer, C. N., & Appley, M. H. (1964). *Motivation: Theory and research*. New York: John Wiley and Sons.
- [5] Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement 20*, 37–46.
- [6] Davis, C.G., Lehman, D.R., Wortman, C.B., Silver, R.C., Thompson, S.C. (1995). The undoing of traumatic life events. *Personality and Social Psychology Bulletin, 21*, 109–124.
- [7] Davis, C. G., Nolen-Hoeksema, S., & Larson, J. (1998). Making sense of loss and benefiting from the experience: Two construals of meaning. *Journal of Personality and Social Psychology, 75*, 561-574.
- [8] *Duty with honour: The profession of arms in Canada*. (2003). Canadian Defence Academy, Canadian Forces Leadership Institute. <http://64.254.158.97/pdf/DutyWithHonour.pdf>.
- [9] Denzin, N. K., & Lincoln, Y. S. (2005). *The SAGE handbook of qualitative research* (3rd ed.). London: Sage.
- [10] Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual Review of Psychology, 51*, 665-698.
- [11] Fleiss, J. L. (1981). *Statistical methods for rates and proportions* (2nd Ed). New York: John Wiley & Sons, Inc.
- [12] Fiske, A. P. (2002). Socio-moral emotions motivate action to sustain relationships. *Self & Identity, 1*, 169-175.
- [13] French, S. E. (2005). Code of the warrior: The values and ideals of warrior cultures throughout history. New York: Rowman & Littlefield.
- [14] Gilbar, O. & Hevroni, A. (2007). Counterfactuals, coping strategies and psychological distress among breast cancer patients. *Anxiety, Stress & Coping, 20*, 383 – 392.
- [15] Grange, D. L. (2000). Asymmetric warfare: old method, new concern. *National Strategy Forum Review, Winter*. [http://blackboard.jfsc.ndu.edu/html/jfscPublications/assets/docs/cam\\_grange.pdf](http://blackboard.jfsc.ndu.edu/html/jfscPublications/assets/docs/cam_grange.pdf).

- [16] 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.
- [17] Hoffman, M. L. (1991). Empathy, social cognition, and moral action. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Handbook of moral behavior and development* (pp. 275-302). Hillsdale, NJ: Lawrence.
- [18] Holman, E. A., & Silver, R. C. (1998). Getting “stuck” in the past: Temporal orientation and coping with trauma. *Journal of Personality and Social Psychology*, *74*, 1146-1163.
- [19] Jackson, M. & Gordon, S. (2007). Rewiring interventions? UK provincial reconstruction teams and ‘stabilization’. *International Peacekeeping*, *14*, 647-661.
- [20] Jaffe, E. D., & Pasternak, H. (2006). Moral intensity as a predictor of social responsibility. *Business Ethics: A European Review*, *15*, 53-63.
- [21] Janis, I. L., & Mann, L. (1977). *Decision making: A psychological analysis of conflict, choice, and commitment*. New York: The Free Press.
- [22] Janoff-Bulman, R. (1992). *Shattered assumptions. Towards a new psychology of trauma*. New York: New Press.
- [23] Jones, T. M. (1991). Ethical decision making by individuals in organizations: An issue-contingent model. *The Academy of Management Review*, *16*, 366-395.
- [24] Ketelaar, T. & Au, W. T. (2003). The effects of feelings of guilt on the behaviour of uncooperative individuals in repeated social bargaining games: An affect-as-information interpretation of the role of emotion in social interaction. *Cognition & Emotion*, *17*, 429-453.
- [25] Leitsch, D., (2006). Using dimensions of moral intensity to predict ethical decision-making in accounting. *Accounting Education*, *15*, 135-149.
- [26] May, D. R., & Pauli, K. P. (2002). The role of moral intensity in ethical decision making, *Business and Society*, *41*, 84–118.
- [27] McCammon, S., Durham, T. W., Allison, E. J., & Williamson, J. E. (1988). Emergency workers' cognitive appraisal and coping with traumatic events. *Journal of Traumatic Stress*, *1*, 353-372.
- [28] McMahan, J. M., & Harvey, R. J. (2006). The effect of moral intensity on ethical judgment. *Journal of Business Ethics*, *72*, 335–357.
- [29] Mikula, G., Scherer, K. R., & Athenstaedt, U. (1998). The role of injustice in the elicitation of differential emotional reactions. *Personality and Social Psychology Bulletin*, *24*, 769–783.
- [30] Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd Ed.). London: Sage.
- [31] Miller, N. E. (1944). Experimental studies in conflict. In J. V. McHunt (Ed.), *Personality and the behavior disorders* (pp. 431-465). New York: Ronald.

- [32] Monson, C. M., Price, J. L., Rodriguez, B. F., Ripley, M. P., & Warner, R. A. (2004). Emotional deficits in military-related PTSD: An investigation of content and process disturbances. *Journal of Traumatic Stress, 17*, 275-279.
- [33] Morris, S. A. & McDonald, R. A. (1995). The role of moral intensity in moral judgments: An empirical investigation. *Journal of Business Ethics, 14*, 715-726.
- [34] Orsillo, S.M., Roemer, L., & Holowka, D. (2005). Acceptance-based behavioral therapies for anxiety: Using acceptance and mindfulness to enhance traditional cognitive-behavioral approaches. In S.M. Orsillo & L. Roemer (Eds.) *Acceptance- and mindfulness-based approaches to anxiety: Conceptualization and treatment* (pp. 77-91). New York: Springer.
- [35] Pagano, S. J. & Huo, Y. J. (2007). The role of moral emotions in predicting support for political actions in post-war Iraq. *Political Psychology, 28*, 227-255.
- [36] Roese, Neal J. (1997). Counterfactual thinking. *Psychological Bulletin, 121*, 133- 148.
- [37] Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, 1-28.
- [38] Sanna, L.J., Turley-Ames, K.J., & Meier, S. (1999). Mood, self-esteem, and simulated alternatives: thought-provoking affective influences on counterfactual direction. *Journal of Personality & Social Psychology, 76*, 543-558.
- [39] Silver, R. L., Boon, C. & Stones, M. H. (1983). Searching for meaning in misfortune: Making sense of incest. *Journal of Social Issues, 39*, 81-102.
- [40] Singer, M., Mitchell, S., & Turner, J. (1998). Consideration of moral intensity in ethicality judgments: Its relationship with whistle-blowing and need-for-cognition. *Journal of Business Ethics, 17*, 527-41.
- [41] Sevdalis, N., & Kokkinaki, F. (2006). The differential effect of realistic and unrealistic counterfactual thinking on regret. *Acta Psychologica (Amst), 122*, 111-128.
- [42] Singhapakdi, A., Vitell, S.J., & Kraft K.L. (1996). Moral intensity and ethical decision making of marketing professionals. *Journal of Business Research, 36*, 245 – 255.
- [43] Spence, N. (2002). Civil-military cooperation in complex emergencies: More than a field application. *International Peacekeeping, 9*, 165-171.
- [44] Thomson, M. H., Adams, B. D., & Sartori, J. A. (2006). *Moral and Ethical Decision Making in Canadian Forces Operations*. DRDC-TORONTO-CR-2006-013. Defence R&D Canada.
- [45] Troup, C. & Dewe, P. (2002). Exploring the nature of control and its role in the appraisal of workplace stress. *Work & Stress, 16*, 335-355.
- [46] Tsalikis, J., Seaton, P., & Shepherd, B. (2008). Relative importance measurement of the moral intensity dimensions. *Journal of Business Ethics, 80*, 613–626.

- [47] United States Army Field Manual 1 – The profession of arms. (2005) Department of the Army. <http://www.army.mil/fm1>.
- [48] Velasquez, M. G., & Rostankowski, C. (1985). *Ethics: theory and practice*. Englewood Cliffs, NJ: Prentice-Hall.
- [49] Weiner, B. (1995). *Judgments of responsibility: A foundation for a theory of social conduct*. New York: Guilford Press.
- [50] White, K. & Lehman, D. R. (2005). Looking on the bright side: downward counterfactual thinking in response to negative life events. *Personality and Social Psychology Bulletin*, *31*, 1413-1424.
- [51] Witvliet, C. V. O., Ludwig, T. E.; & Bauer, D. J. (2002). Please forgive me: Transgressors emotions and physiology during imagery of seeking forgiveness and victim responses. *Journal of Psychology & Christianity*, *21*, 219- 234.

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(U) Military operations have always held the potential for the encountering of moral dilemmas by military personnel. The current research involved secondary data analyses of an intensive interview study of Canadian Forces senior officers, each of whom had confronted a moral dilemma (i.e., situations or circumstances in which at least two core values are in conflict) during a deployment. Each interview was coded for evidence of central conceptual frameworks from the moral and ethical decision making literature, including the number and nature of the dimensions of moral intensity, and moral emotions, as well as for evidence of counterfactual thinking (i.e., 'what if' or 'if only' statements describing imagined alternatives to an actual outcome). Although commonly used in the moral and ethical decision making literature, there have been few applications of these models to the military domain, and virtually none that has applied all of these frameworks to first-hand accounts of moral dilemmas. Finally this work explores the extent to which these accounts reveal psychological resolution concerning these moral and ethical dilemmas, and the extent to which psychological resolution is associated with particular moral intensity dimensions moral emotions and counterfactual thinking.

(U) Les opérations militaires ont toujours été susceptibles de créer des situations où le personnel militaire fait face à des dilemmes moraux. La présente recherche a comporté des analyses de données secondaires provenant d'une étude exhaustive menée par entrevues auprès d'officiers supérieurs des Forces canadiennes qui avaient tous été confrontés à un dilemme moral (c. à d. des situations ou circonstances où au moins deux valeurs fondamentales sont en conflit) au cours d'un déploiement. Nous avons analysé chaque entrevue afin de trouver la preuve des cadres conceptuels centraux de la documentation sur la prise de décisions morales et éthiques, y compris le nombre et la nature des dimensions de l'intensité morale et des émotions morales, ainsi que la preuve de la pensée contrefactuelle (c. à d. des énoncés de ce qui aurait pu arriver « si seulement... », décrivant des solutions imaginées qui remplaceraient un résultat réel). Bien que ces modèles soient couramment utilisés dans la documentation sur la prise de décisions morales et éthiques, ils sont peu appliqués dans le domaine militaire, et presque aucun d'eux n'a appliqué l'ensemble de ces cadres aux comptes rendus de première main portant sur des dilemmes moraux. Enfin, nous examinons dans quelle mesure ces comptes rendus révèlent une résolution psychologique des dilemmes moraux et éthiques en question, et dans quelle mesure cette résolution psychologique est liée à des aspects particuliers de l'intensité morale, des émotions morales et de la pensée contrefactuelle.

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