Sensemaking in Military Critical Incidents:

The Impact of Moral Intensity

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Abstract

This study explores the relationship between moral intensity and the use of different sensemaking strategies in military critical incidents. First, narratives of military personnel were used in order to select prototypical high/low moral intensity critical incidents. In a follow-up, a scenario study was conducted with active duty military personnel (N = 325) in order to examine the relationship between moral intensity (high versus low) and the use of sensemaking tactics. This study offers three main conclusions. Firstly, the use of sensemaking tactics is strongly tied to the level of moral intensity in the situation. In high intense situations the servicemen draw on previous experiences, prediction of consequences, and help of others in order to recognize and interpret the situation. Less attention goes out to higher level “*critical thinking*” (i.e., moral awareness, integrating available information, and analyzing personal biases in the decision-making process). Thus, it seems that in these critical incidents the servicemen react without giving room for thorough consideration and deliberation. Secondly, the number of deployments a serviceman experienced influences the perceived seriousness and harmfulness of the situation negatively in low intense situations. Finally, and in line with earlier studies, the results indicate that the concept of moral intensity is formed out of three rather than the six dimensions originally proposed by Jones (1991). The implications of these findings are discussed.

Keywords

business ethics; ethical decision making (EDM); military; moral intensity; sensemaking

When facing ambiguous circumstances or a novel, challenging situation, individuals usually try to figure out what is going on and what the proper response in this situation might be (cf. Weick, Sutcliffe, & Obstfeld, 2005). This cognitive process is labeled “*sensemaking*” (cf. Mumford, et al., 2008; Weick, 1995; Weick et al., 2005). Sensemaking is particularly important in high-velocity environments for emergency response units such as fire crews (Landgren, 2005) and the subject of this study - the military (Kramer, van Bezooijen, & Delahaij, 2010). When such units encounter unanticipated events, referred to as critical incidents, it is crucial that they make the right decision and act responsibly (Alexander & Klein, 2001; Oliver & Roos, 2003).

In critical incidents individuals often come across “*ethical challenges*” that are characterized by ambiguousness and complexity and that are in demand of sensemaking (cf. Thiel, Bagdasarov, Harkrider, Johnson, & Mumford, 2012). Ethical challenges typically occur when the situation presents a difficult decision caused by the conflicting nature of (or values at stake within) that specific situation (cf. Sparks & Siemens, 2014). This includes, for example, situations where the obligations to oneself are incompatible with those to someone else, or when benefit for one party results in harm for others (cf. Sparks & Siemens, 2014). In a military context, for example, this may occur when (radio) contact is lost between units during a patrol mission, while loud noises suggest that one of the other units might be in trouble. The question rises whether to follow the regular guidelines and orders not to intervene, or whether to go and see if the other unit needs assistance. Such dilemmatic and challenging situations usually cannot merely be dealt with on the basis of regular routines or rules; they require ethical decision-making (EDM) competence also referred to as moral competence (Park & Peterson, 2006; Seiler, Fischer, & Voegtli, 2011).

Research Aims

Research shows that when complexity increases, decision-making comes about differently (cf. Cummings & Nehme, 2010) and affects performance (cf. Alexander & Klein, 2001). Generally, when the situation becomes more complex and loses its resemblance to what is expected or trained for, it becomes hard to construct reality (Weick, 1993). Weick (1993) demonstrated for example that in a huge fire incident in 1949 called the Mann Gulch disaster the firefighter-crew was not able to make sense of the situation since their “old labels” did not suffice in the changing environment, resulting in the tragic death of almost all firefighters (Weick, 1993).

Moreover, scholars have highlighted the influence of issue- and content-specific characteristics on decision-making (cf. Caughron et al., 2011; Christensen & Kohls, 2003; Weber & Wasieleski, 2001). Jones (1991) refers to the characteristics of situations – such as the harmfulness (to a larger group of people), the likeliness to occur, and the direct impact on or personal relevance for the decision-maker – as the *moral intensity* of a situation. It has been generally acknowledged that military deployment comes with ethical challenges that differ in moral intensity (for an overview, see Richardson, Verweij, & Winslow, 2004). There is – to our knowledge – no empirical research regarding how moral intensity precisely affects the sensemaking process for active military personnel. This study aims to fill this void. Therefore, this study’s first aim is to explore whether and how sensemaking differs in coping with low and high moral intensity situations.

Secondly, since earlier work suggests that the different sub dimensions of moral intensity are not equally important in assessing a situation (Singh et al., 2007; Singhapakdi, Vitell, & Kraft, 1996), we aim to further explore the moral intensity construct and its relationship with sensemaking. Thus, a) we address how the moral intensity sub dimensions differentiate between situations that are experienced as low in intensity versus high in

intensity. And b), we explore the effect of these sub dimensions on the use of different sensemaking tactics.

In sum, this study contributes to a better understanding of sensemaking in ethical challenges in relation with moral intensity and its dimensions. These insights are relevant for organizations that operate in high velocity environments, since when individuals are not capable of making sense of their surroundings they are not able to create order and give meaning to what occurs. Consequently, there is nothing to decide and actions are not formed by deliberate moral reasoning, which may have negative and even lethal consequences. Also, ethical decision making (EDM) depends on personal as well as situational characteristics (Treviño, 1986). Meaning that the level of moral development does not form moral judgments exclusively. Therefore, it is important for individuals to show internal awareness (i.e., awareness of their own thoughts, feelings, and biases) and external awareness (i.e., awareness of what is happening in the environment) before they continue with actual decision-making. Thus, in ethical challenges it is relevant to address how moral intensity influences individual sensemaking. After all, insufficient sensemaking may result in unethical behavior regardless of an individual's personal level of moral development.

Theoretical Background

The scientific field that primarily addresses dilemmas and ethics in a work context is that of business ethics wherein various academic disciplines (such as psychology, organizational science, and philosophy) are combined. Efforts to understand processes surrounding EDM have generally taken one of two perspectives. The first perspective is normative of nature and focusses mainly on normative organizational ethics, such as behavioral codes and business ethos (cf. O'Fallon & Butterfield, 2005). The second perspective seeks to understand how EDM develops at a personal and individual level, tapping into issues such as moral reasoning,

moral development and individual behavior (cf. O'Fallon & Butterfield, 2005). In this article, we take the second of these approaches, referring to the general field of EDM.

Three main approaches with regard to individual judgment are present in EDM-research: 1) the cognitive or rationalist approach, 2) the affective approach, or 3) the integrative approach, combining cognitive and affective elements into sensemaking processes (cf. Kahneman & Sunstein, 2005). The cognitive approach explains people's EDM by individual cognitive sophistication (Sonenshein, 2007). The affective approach takes intuitions and emotions in consideration when confronting an ethical situation (Greene & Haidt, 2002). The debate whether to use a cognitive or affective approach in EDM-research led to the third approach wherein both perspectives are united into one integrative approach where interpretations of the world are done by both conscious deliberation and affect-laden intuitions (cf. Lerner & Keltner, 2001).

Influential frameworks for individual EDM research are Rest's four components model (Rest, 1986) and Treviño's person-situation interactionist model (Treviño, 1986). Rest (1986) proposed a fundamental model for EDM, including four stages: a) moral recognition, b) moral evaluation or judgment, c) moral intention, and d) moral behavior. Where Rest (1986) focusses on individual characteristics in EDM, Treviño (1986) points out the relevance of situational characteristics that influence an individual. According to Treviño (1986) is it insufficient to focus only on individual moral development when addressing EDM. Treviño argues that an individual's moral development forms the basis for an individual's response to a moral dilemma, however they are not enough to explain or predict EDM behavior (Treviño, 1986). Such situational variables include job characteristics, responsibility and pressures (Treviño, 1986). Recent research suggests that issue-related factors, like moral intensity, are strong (and sometimes even stronger) predictors of EDM than personal and organizational factors (Paolillo & Vitell, 2002).

Moral Intensity

Moral intensity fits the person-situation interactionist approach suggested by Treviño (1986), as it refers to the degree to which there exists a moral imperative in a situation that influences individual EDM (cf. Hayibor & Wasieleski, 2009; Jones, 1991; McMahon & Harvey, 2006). According to the seminal work of Jones (1991), moral intensity is a multi-dimensional construct including six dimensions: a) *magnitude of the consequences* which is the total sum of harm of the decision, b) *probability of effect* which refers to the likelihood of harm caused by the decision, c) *proximity* which is the social distance between the decision-maker and other beneficiaries, d) *concentration of the effect* which refers to the number of people affected by the decision, e) *temporal immediacy* which is the amount of time between making the decision and the onset of any consequences, and f) *social consensus* which refers to the extent of broad social agreement about the appropriateness of the decision (cf. Jones, 1991; Paolillo & Vitell, 2002).

Sensemaking

Sensemaking is a process that begins when an individual is confronted with a situation that is new and not self-evident because it deviates from the normal daily routine (Weick, 1995). Usually, this becomes apparent when comparing the current situation with prior experiences and expectations. Furthermore, available mental models are used in order to interpret the situation. Finally, information is gathered, evaluated and assessed so that the individual can figure out how to react. The process is concluded when individuals believe to understand the novel situation well enough to decide how to act (cf. Caughron et al., 2011; Weick et al., 2005). Recently, research has focused on sensemaking in relation to EDM (Brock, et al., 2008; Martin, et al., 2011; Mumford, et al., 2008). Research shows that the sensemaking

process includes a variety of metacognitive reasoning strategies. Caughron et al. (2008) describe a categorization in which a person distinguishes between seven different sensemaking tactics: *dealing with emotions*, *recognizing the circumstances* (i.e., creating a clear picture of the relevant aspects of the situation by analyzing its origin and the interests of all parties involved), *seeking outside help*, *questioning own and others' judgment*, *anticipating consequences of actions*, *analyzing own personal motivations*, and *considering the effects of actions on others*. Others have integrated the tactical level of sensemaking in higher-level strategies, which broadly encompass four broad categories: *emotion regulation*, *forecasting*, *self-reflection*, and *information integration* (cf. Brock et al., 2008; Thiel et al., 2012). We use this integrated framework, outlined and further operationalized in Table 1, as the basis of our research.

Over the last two decades, empirical studies started to examine the relationship between moral intensity and EDM. Most of these studies were conducted in a marketing or business management setting (May & Pauli, 2002; Paolillo & Vitell, 2002; Singhapakdi et al., 1996). In a study with business school undergraduate students, May and Pauli (2002) grouped empirical studies of moral intensity into four broad categories that relate to different stages of EDM: a) moral recognition, b) moral evaluation, c) moral intention, and d) issue-contingent EDM framework (i.e., focusing upon the entire framework proposed by Jones (1991)). They found that moral intensity relates to the recognition of a moral issue. They also showed that moral evaluations of the situation and individual moral intentions are related to the moral intensity of the managerial issues the business students are exposed to. Singhapakdi et al. (1996) also pointed at the relevance of moral intensity for the recognition of a marketing dilemma, showing that situations with higher moral intensity are perceived more often as an ethical dilemma than those with low perceived moral intensity. Finally, several studies suggest that not all underlying dimensions of morality are equally important for ethical

judgment and behavioral intentions (Barnett, 2001; McMahon & Harvey, 2006; Singhapakdi et al., 1996). Barnett (2001), for example, found that social consensus influences the recognition of an ethical issue, whereas behavioral intentions and the final judgment are influenced by social consensus, temporal immediacy, seriousness of consequences, and proximity. Barnett (2001) furthermore reported that temporal immediacy and proximity did not influence the ethical decision-making process at all.

Moreover, McMahon and Harvey (2006) found that when measuring moral intensity with a 12-item scale covering the original six dimensions of Jones (1991), moral intensity is better reflected with three rather than six dimensions (i.e., “*probable magnitude of consequences*,” “*proximity*,” and “*social consensus*”). Singhapakdi and colleagues (1996) found that moral intensity was even better represented by two dimensions, which they labeled “*perceived potential harm*” and “*perceived social pressure*” (combining the “proximity” and “social consensus” dimensions). They also found that Jones’ “*proximity*” dimension is a loosely connected component of moral intensity in relation with assessing the ethicality of the situation and the behavioral intentions of the decision-maker (Singhapakdi et al., 1996).

In sum, this collection of studies suggests that (1) the moral intensity of the issue may have a strong influence on EDM processes including sensemaking in the early EDM stages of moral recognition, and (2) that the specific relationship is likely to vary for the different moral intensity dimensions. However, as far as we know this has never been studied in the context of military deployment nor has it specifically focused on different sensemaking tactics. Specifically, the integrated framework for sensemaking as well as the moral intensity approach from an issue-contingency-model, further build upon the integrative approach of EDM research.

Table 1 Operationalization of sensemaking based on Caughron et al. (2011) and Thiel et al. (2012)

Strategy	Tactic	Operationalization in Item
1. Emotion regulation	Downgrading emotional overwhelming / dealing with emotions	I attempt to control my emotions strongly
2. Self-reflection	Introspection	I consciously draw on my own previous experiences
	Moral awareness	I consciously deal with the situation as a moral dilemma
	Analyzing personal motivations	I am aware of and reflect on my own bias and prejudices
3. Forecasting	Forecasting the consequences	I anticipate the consequences of actions for those involved
4. Integration of information	Recognizing the circumstances	I aim at creating a clear picture of the circumstances and its origin: I am mindful of others' interests in the situation
	Seeking outside help	I seek help from others in order to advise me
	Analyze and integrate available information	I consider the 'bigger picture' of a situation

Note: the items described in this table are a translation of the Dutch items presented in the survey.

Method

In order to address the research aims, this study consisted of two parts. First, actual narratives of military personnel were used in order to select a prototypical high and a low moral intensity critical incident. Second, a scenario study was conducted with active duty military personnel in order to investigate the relationship between moral intensity (high versus low) and the use of sensemaking tactics.

Selection of Narratives

From a previously collected sample of 45 interviews conducted with servicemen regarding their deployment experiences (De Graaff et al., 2016), twelve narratives including an ethical challenge were selected (see Table 2 for a short description of the narratives). The content of the narratives show an appropriate distribution across four different types of ethical challenges encountered in the mission area (De Graaff et al., 2016).

A total of ten servicemen from different Arms of Service were provided with the twelve narratives – each handed out on a separate paper and in random order. They were asked to read the narratives thoroughly. Next, they were asked to rate the narrative in terms of intensity by sorting them from 1 (most intense) to 12 (least intense). Next, the participants were asked to indicate whether they had read narratives they did not find credible (i.e., realistic, plausible). The narratives that were considered “*not credible*” by more than 50% of the participants were excluded from further analysis. From the remaining six narratives, the two narratives that received the highest and lowest average score on intensity were selected for the main study (See Table 2). Please note that although the two narratives differed in terms of type (team-related versus local cultural interaction), they were similar in length, type of combat environment -a platoon patrol mission in Afghanistan-, and in both situations another person experienced physical harm (see Appendix for the complete two narratives).

Table 2 Results of categorization of narratives

Content ethical challenge	Type of ethical challenge	Rank in categorization	Mean-score Perceived Intensity
An injured soldier needs medical assistance in an inhospitable area. The exact circumstances of the soldier's condition are unknown. Therefore, since it is impossible to bring all supplies at once, the medic needs to decide which medical and personal equipment he will bring.*	Team-related	1	3.33
During patrol an IED strike takes place. You can't see or reach the vehicles that were hit. According to procedures you have to secure the safety of your team. But your team-members want to see and help the injured colleagues.*	Team-related	2	3.50
A UN observer meets an old lady at the gates of the camp every day. She desperately needs food, she is an outcast in the nearest village and she is starving. UN regulations prohibit any intervention, not allowing the UN observer to provide her with food. One day food-packages are brought to camp for the staff, witnessed by the woman who comes begging for food to save her life. The dilemma arises to follow mission guidelines or to give humanitarian aid.*	Team-related	3	4.38
When on a patrol mission servicemen encounter a local family with a very sick child. The Dutch offer medical assistance. However local norms prescribe that no male doctor is allowed to interact with the female child. What can they do? Since not intervening may have serious consequences for the little girl's wellbeing.*	Local cultural interaction	4	4.57
A female UN observer is the only woman on camp and due to the local culture there are frequent discussions about what she, as a woman, can or can't do. This puts her in a difficult position as one of the few officers to maintain her position. She deliberates whether or not she should conform to the norms of the local culture regarding interactions with women.*	Local cultural interaction	5	5.33
Local children are playing with military vehicles and trying to take materials. The servicemen can't get them to stop this. A local man disciplines the children by beating them with a stick. He wants the servicemen to do the same. The soldiers think it's wrong to discipline children this way but they need to keep them away from the materials. *	Local cultural interaction	6	5.60
Dutch servicemen are training local policemen. When arriving at the police station they see that an arrested woman is locked away in the ammo-box. Cultural norms dictate the woman should not be in the same room with men without her husband present. Locking her away in the unsafe ammo-box is for the protection of her honor. The servicemen confront the dilemma to choose between respecting the cultural norms regarding women's honor and the woman's personal safety in deciding whether or not to get her out of the ammo-box.	Coalition forces	-	
During deployment the Dutch troops cooperate with allied forces. One of the allies trains in an urban area. The story goes that during this training, civilians got wounded and houses	Coalition forces	-	

were damaged. The Dutch find this unacceptable. However, they are also ordered to carry out patrol missions together with these allies. The commander of the patrol mission of coalition forces is torn between loyalty towards the allies and empathy for the local population.

Dutch troops are sent to clean a site where a suicide attack had taken place. The troops need to collect body parts of the suicider and collect any clues that may lead to the network of terrorists. Although the troops are allowed to make a phone call to their family back home, one of the soldiers doubts whether to tell her family about this experience. On the one hand it will help her in dealing with the intensity, on the other it will shock and scare her family enormously.	Personal-private	-
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A group of marines are heading with their vehicles for hostile territory. The mission guidelines are not to intervene whatever happens and to keep a certain distance between the vehicles. However, at a certain point radio contact is lost between the two vehicles and when the distance between the vehicles is kept the two will also lose eye contact. The commander of the second vehicle has to decide to follow the guidelines or to move forward for their own and the other's safety.	Team-related	-
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During deployment there is conflict between one of the group commanders and his platoon commander. The situation worsens resulting in trouble and distrust in the entire unit, also towards the platoon commander. This puts the platoon commander in a difficult position: he needs to decide how to straighten out the situation by resigning both the group commander and himself, or not to do anything.	Team-related	-
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When driving in a convoy it is not always possible to make a sanitary stop. Especially for the women, this creates difficulties concerning their privacy. During a longer stop of the convoy the woman has the opportunity to answer nature's call outside of the vehicle a bit away from the convoy. However, this may pose her in extra risk. She needs to decide what to do.	Personal-private	-
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* indicates high credibility

Scenario Study, Procedure, and Respondents

Servicemen were recruited through contact with the chain of command. The researchers personally administered the hardcopy surveys and the link to the online survey to the participants, in order to assure complete confidentiality to the participants as well as to ensure the voluntariness of their participation. More participants were recruited as the process continued in accordance with *snowball sampling* (Biernacki & Waldorf, 1981; Noy, 2008). Participants were asked to forward the link of the online-survey to their colleagues. In total 363 participants returned the survey. However, some participants only filled out the questions regarding their demographics, or they did not meet the inclusion criteria (i.e., they were not in active military service at the time of this study). After excluding these participants, a total of 325 surveys were ultimately included for further analysis (see Table 3 for the demographics). As is the case in the general military population, the number of women participants was modest ($N = 30$, 9.2%; in the general population of the Dutch forces the percentage of female servicemen centers around 10%, Ministerie van Defensie, 2015). In our study the number of troops participating ($N = 125$, 38.5%) is a larger percentage than in the general population of Dutch forces (which centers around 32%), as well as the number of officers participating ($N = 31$, 31%), which is also a larger percentage than in the general population of Dutch forces (which centers around 22%). This difference can be explained by the fact that in military operational units preparing for deployment the number of officers and troops is higher than in non-operational units (such as staff and educational departments). Also, current military operations (one of the criteria for participation in this study) are often individual or team-missions in an international context, which require the rank of an officer. Thus, the distribution of participants is similar to the demographics of the Dutch Armed Forces when focusing on operational and mission-units.

The participants were informed that the study they participated in, aimed at gaining insight into deployment experiences. All participants were ensured confidentiality, meaning their commanding officers or other third parties would not be notified of their participation and their individual answers. The participants were informed about the duration of filling out the survey and the possibility to abort the session at any time. Standard informed consent procedure was followed.

Participants were randomly assigned to one of two versions of a survey starting with either a low or a high intensity moral situation. After the introduction of the scenario the participants were asked to take the perspective of the decision-maker in the narrative. First the perceived moral intensity was measured. Next, we established their preference for the different sensemaking tactics. We concluded the questionnaire with some general questions to check whether participants took part seriously and whether they correctly understood the task.¹

Table 3 Demographics of participants

		N = 325
Gender	<i>Male</i>	295
	<i>Female</i>	30
Version	<i>High intensity</i>	159
	<i>Low intensity</i>	166
Age	<i>18-25 years</i>	91
	<i>26-35 years</i>	115
	<i>36-45 years</i>	51
	<i>46-55 years</i>	63
	<i>56-65 years</i>	5
In a leadership position	<i>Yes</i>	125
	<i>No</i>	200
Number of deployments	<i>None</i>	117
	<i>1 tour</i>	66
	<i>1-4 tours</i>	117
	<i>5 or more tours</i>	24
Rank	<i>Private</i>	79
	<i>Corporal</i>	46
	<i>Sergeant</i>	50

<i>Sergeant-Major</i>	22
<i>Warrant-Officer</i>	26
<i>Second Lieutenant</i>	9
<i>First Lieutenant</i>	27
<i>Captain</i>	24
<i>Major</i>	24
<i>Lt Colonel</i>	17
<i>Colonel</i>	1
Average years of service	13 years (range: 0.5 - 40 years)

Measurement

Moral intensity scale. We assessed moral intensity with a 12-item 6-point Likert scale originally developed by Frey (2000a; see Table 4 for the items). Frey's scale to measure Moral Intensity has been used frequently over the years (Frey, 2000b; McMahon & Harvey, 2006, 2007; Tillman et al., 2014) and is based on the theoretical foundations of Jones (1991). A higher score indicates higher perceived moral intensity. The reliability analysis showed a sufficient Cronbach's Alpha of 0.65 for the entire scale.

High versus low moral intensity. We checked whether the high and low moral intensity narratives were actually perceived as distinctive by comparing mean scores of the moral intensity scale. The results indeed showed a significant difference between the high ($M = 3.95$, $SD = 0.50$) and low ($M = 3.61$, $SD = 0.59$) moral intensity versions ($t = 5.46$; $p < 0.001$; $df = 295$).

Table 4 Operationalization of Moral Intensity based on Jones' moral intensity dimensions (1991)

Moral intensity dimension	Scale number	Operationalization in Item
1. Magnitude of consequences	M1	Any negative consequences will be serious.
	M7	Harm caused by the decision will be very small. (R)
2. Probability of effect	M3	There is a small likelihood of harm. (R)
	M9	The decision is likely to cause harm.
3. Temporal immediacy	M4	The decision will not cause harm in immediate future. (R)
	M10	Negative effects will be felt very quickly.

4. Proximity	M6	Harmful effects will affect people close.
	M12	The decision maker is unlikely to be close to anyone who might be negatively affected by the decision. (R)
5. Social Consensus	M2	Most people would agree about the appropriate solution.
	M8	People are not likely to agree about the right thing to do. (R)
6. Concentration of effect	M5	The harmful consequences of the decision will be concentrated on a small number of people.
	M11	Negative effects of the decision will have large impact on only a few individuals.

(R) = reversed score

Note: a higher score indicates a lower perceived intensity; the items presented in this table are a translation of the Dutch items presented in the survey

Sensemaking. The eight sensemaking tactics nested in the four broader strategies were operationalized in eight descriptions of each tactic based on Caughron et al. (2011) and Thiel et al. (2012; See Table 1). We offered the respondents forced-choice options of two tactics at a time such that all 28 possible combinations were offered once and in a random order. We chose to use forced-choice rating scales in order to minimize the problem of social desirability bias since pilot testing showed that all tactics are considered important. Earlier studies also indicated that forced-choice scales are less susceptible to response bias than a single-stimulus format (Jackson, Wroblewski, & Ashton, 2000). Each time, the respondents chose the tactic that they were most likely to adopt. Per tactic, the number of choices was added up, with scores varying from 0 (never chosen) to 7 (always chosen), thus reflecting the relative likelihood of each tactic to be used.

Results

Sensemaking

The first research question of this study concerns the relationship between moral intensity and the use of different sensemaking tactics. We conducted independent t-tests for each sensemaking tactic grouped by version (i.e., high or low; see Table 5). Of the eight sensemaking tactics, seven showed an effect of high/low moral intensity. “*Introspection*,”

“forecasting the consequences,” “recognizing the circumstances,” and “seeking outside help” were considered more relevant in the high intense situation than in the low intense situation. On the other hand *“analyze and integrate available information,” “moral awareness,” and “analyzing personal motivations”* showed higher scores in the low intense situation, which implies that they are considered more relevant in the low intense situation than in the high intense situation. In the discussion we will further elaborate on these findings.

Table 5 Means and SDs for Sensemaking Tactics

Sensemaking Tactic	High		Low		t
	Mean	SD	Mean	SD	
Downgrading emotional overwhelming / dealing with emotions	2.43	1.89	2.57	1.94	-.63, <i>ns</i>
Introspection	4.64	1.65	4.09	2.05	2.54*
Forecasting the consequences	4.37	1.62	4.00	1.64	1.97*
Analyze and integrate available information	2.99	1.81	4.25	1.98	- 5.69***
Recognizing the circumstances	5.39	1.48	4.32	1.66	5.86***
Seeking outside help	3.08	1.63	2.26	1.87	4.02***
Moral awareness	2.52	1.75	3.59	2.01	- 4.88***
Analyzing personal motivations	1.68	1.51	2.63	1.66	- 5.13***

* significant difference at .05 level

*** significant difference at .001 level

N(high) = 143 N(low) = 155

Moral Intensity Dimensionality

Although the moral intensity scale displayed a sufficient Chronbach’s alpha of 0.65, an additional aim of this study was to explore a possible dimensionality of moral intensity. Therefore, a factor analysis was performed in order to establish which dimensions (components) of moral intensity can be meaningfully distinguished between. Three components were found, similar to findings of McMahon and Harvey (2006). The first

component comprises items reflecting the *seriousness of harm* in the situation at hand (items: M1; M5; M6; M10; M9; M11; Cronbach's alpha = 0.74). The second component focuses on *the probability of harm* in the situation (items: M3; M4; M7; M12; Cronbach's alpha = 0.53). The third component comprises the *social consensus* regarding the ethicality of the situation and the decision to be made (items: M2; M8; Cronbach's alpha: 0.38).

In order to gain insight in the relevance and significance of the different elements of moral intensity in the high and low intense situation, independent sample t-tests were performed at the dimension-level. Not surprisingly, the results show that the *seriousness of harm* was perceived to be higher in the high ($M = 3.94$, $SD = 0.73$) versus low morality condition ($M = 3.68$, $SD = 0.91$; $t = 2.69$, $p < 0.01$, $df = 294$). A significant difference was also found for the *probability of harm*, which was higher in the high morality condition ($M = 4.25$, $SD = 0.72$) than in the low morality condition ($M = 3.74$, $SD = 0.84$; $t = 5.58$, $p < 0.001$, $df = 293$). Similar results were found for the dimension *social consensus*, wherein the high intense situation showed higher scores for social consensus ($M = 3.39$, $SD = 0.97$) than the low intense situation ($M = 3.10$, $SD = 1.03$; $t = 2.44$, $p < 0.05$, $df = 295$). So, all three dimensions are important discriminators of moral intensity.

Table 6 – Correlations between demographics, moral intensity and sensemaking tactics (low intensity condition)

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Gender (1, 2)	1.08	.27	.									
2. Age	2.32	1.15	-.08	.								
3. Education	3.79	1.56	.06	.23**	.							
4. Arms of Service	2.47	.94	.21**	.42**	-.15	.						
5. Rank	4.40	3.14	-.03	.67**	.49**	.51**	.					
6. Leadership position (1, 2)	1.38	.49	-.06	.11**	.15*	.36**	.46**	.				
7. Number of deployments	2.02	.97	-.13	.69**	.13	.38**	.57**	.29**	.			
8. Dimension seriousness of harm	3.68	.91	.26**	-.11	.07	.15	-.12	-.04	.28**	.		
9. Dimension probability of harm	3.74	.84	.12	-.11	.01	.01	-.12	.22**	.28**	.31**	.	

10. Dimension social consensus	3.10	1.03	.03	.04	-.02	.01	-.01	-.13	.10	-.23**	-.07	.
11. Tactic downgrading emotional overwhelming	2.57	1.94	-.03	-.04	-.00	.05	-.09	-.04	-.08	.07	.12	.03
12. Tactic introspection	4.09	2.05	.03	-.12	-.18*	.07	-.15	-.01	.10	-.11	-.05	.06
13. Tactic forecasting the consequences	4.00	1.64	.06	-.01	.03	.09	.04	-.08	-.11	.07	.11	-.03
14. Tactic analyze and integrate available information	4.25	1.98	-.06	.19*	.18*	.22**	.30**	.24**	.19*	-.07	-.01	.01
15. Tactic recognizing the circumstances	4.32	1.66	-.12	-.01	.00	-.03	-.01	.05	.08	-.18*	.22**	-.03
16. Tactic seeking outside help	2.26	1.87	.03	-.16*	-.17*	.08	-.20*	-.18*	.32**	.22**	.04	-.12
17. Tactic moral awareness	3.59	2.01	.05	.11	.10	.02	.09	.01	-.04	.28**	.03	-.12
18. Tactic analyzing personal motivations	2.63	1.66	.07	.01	.02	.05	-.04	-.02	.10	-.14	-.04	.07

* = significance $p < 0.05$
 ** = significance $p < 0.01$
 Gender 1 = male, 2 = female
 Leadership 1 = in a leadership position, 2 = in a subordinate position

Table 7 – Correlations between demographics, moral intensity and sensemaking tactics (high intensity condition)

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Gender (1, 2)	1.10	.30	.									
2. Age	2.33	1.11	-.10	.								
3. Education	3.42	1.62	.24**	.03	.							
4. Arms of Service	2.39	.99	.14	.42**	-.10	.						
5. Rank	4.08	2.80	.07	.66**	.38**	.46**	.					
6. Leadership position (1, 2)	1.40	.49	-.14	-.01	-.10	.44**	.06	.				
7. Number of deployments	2.31	1.02	-.06	.62**	.11	.50**	.44**	.21**	.			
8. Dimension seriousness of harm	3.94	.73	.05	-.17*	.01	.06	-.12	-.00	-.16	.		
9. Dimension probability of harm	4.25	.72	.16	.15	.00	.05	.02	.06	-.11	.33**	.	
10. Dimension social consensus	3.39	.97	.05	.21*	.07	.22**	.19*	.09	.29**	-.15	.11	.
11. Tactic downgrading emotional overwhelming	2.43	1.89	.13	-.09	-.01	.23**	-.06	-.18*	-.16	-.06	.08	-.20*
12. Tactic introspection	4.64	1.65	.09	.05	.02	.05	.06	-.12	.04	-.06	.03	-.12
13. Tactic forecasting the consequences	4.37	1.62	.19*	.05	-.05	-.02	.08	-.10	-.02	.08	.13	.04

14. Tactic analyze and integrate available information	2.99	1.81	-.11	-.06	.01	-.07	.02	.20*	.04	-.07	.10	-.17*
15. Tactic recognizing the circumstances	5.39	1.48	-.09	.15	.15	-.18*	.28**	.10	.08	-.20*	-.05	.10
16. Tactic seeking outside help	3.08	1.63	.12	-.09	.16	.18*	.02	-.14	-.09	.03	-.03	.07
17. Tactic moral awareness	2.52	1.75	-.21*	-.05	-.06	.13	-.10	-.02	-.20*	.02	.01	-.06
18. Tactic analyzing personal motivations	1.68	1.51	.08	-.10	-.01	-.13	-.10	-.03	.01	.03	.05	-.07

* = significance $p < 0.05$
 ** = significance $p < 0.01$
 Gender 1 = male, 2 = female
 Leadership 1 = in a leadership position, 2 = in a subordinate position

Note: (N = 159)

Correlational Analyses

The correlation analyses are shown in Table 6 and 7, separately for the low moral intensity and high moral intensity condition. Most apparent are the positive correlations in the low intensity condition between gender and the dimension “*seriousness of harm*” (*females > males*), and between the number of deployments and the first two moral intensity dimensions. The tactic “*analyze and integrate available information*” correlates with almost all demographic variables. The tactic “*recognizing the circumstances*” negatively correlates with the moral intensity dimensions “*probability of harm*” and “*seriousness of harm*.” The tactics “*seeking outside help*” and “*moral awareness*” positively correlate with the moral intensity dimension “*seriousness of harm*.” No correlations were found between the dimension “*social consensus*” and the sensemaking tactics in the low intensity situation.

In the high intensity condition the following patterns were found. The number of deployments correlates positively with the moral intensity dimension “*social consensus*” and negatively with the sensemaking tactic “*moral awareness*.” The dimension “*seriousness of harm*” correlates negatively with the sensemaking tactic “*recognizing the circumstances*.” The dimension “*social consensus*” correlates negatively with the sensemaking tactic “*downgrading emotional reactions*” and positively with “*analyzing and integrating available information*.” No correlations were found for the dimension “*probability of harm*.”

Regression Analyses

Of the demographic characteristics we were particularly interested in the relationship between the number of deployments and moral intensity. These relationships could differ for the low and high intensity scenario, so we performed separate regression analyses to test this. In the low intensity condition we found that when the number of deployments increases, the perceived seriousness of harm decreases ($B = -.63$; $t = -3.16$; $p < 0.05$) (R^2 change = 0.06, $F =$

3.94), as well as the probability of harm ($B = -.42$; $t = -2.24$; $p < 0.05$) (R^2 change = 0.03, $F = 2.55$). Interestingly, no relationships were found between the number of deployments and the intensity dimensions in the high intensity condition. We will address these findings further in the discussion.

The next step was to explore how the different dimensions of moral intensity influence the use of the different sensemaking tactics in both high and low perceived moral intensity situations. In order to do so a linear regression analysis was conducted, for the high and low moral intensity condition separately. In step 1, we entered the control variables rank, gender, age, number of deployments, education, Arms of Service and leadership position. In step 2 we entered the dimensions of moral intensity, to examine whether these dimensions are possible predictors for the use of certain sensemaking tactics. For every single sensemaking tactic a regression analyses was conducted.

These analyses displayed that in the low intense situation, the dimension “*seriousness of harm*” is a (marginally) significant predictor of the tactics “*seeking outside help*” ($B = 0.33$; $t = 1.82$; $p = 0.07$) (R^2 change = 0.03, $F = 3.13$) and “*moral awareness*” ($B = 0.58$; $t = 2.84$, $p < 0.01$) (R^2 change = 0.06, $F = 1.72$). Finally, the dimension “*probability of harm*” is in the low intensity condition a significant predictor of the tactic “*recognizing the circumstances*” ($B = -.35$; $t = -1.98$; $p = 0.05$) (R^2 change = 0.052, $F = 1.16$). In the high intensity situation no significant effects were found.

Discussion

In the current study, we explored the relationship between the moral intensity of military critical incidents and sensemaking. The results are relevant since they extend our knowledge about moral intensity and sensemaking in high-stake environments. This study offers three main conclusions.

First and foremost, we found clear evidence that the overall intensity (i.e., high or low) of a military critical incident influences the use of sensemaking tactics. Only for downgrading emotional reactions no significant effect of the overall intensity of the situation was found. An explanation for this lack of effect may be the servicemen's military training: much effort goes to emotion regulation (cf. Schut, De Graaff, & Verweij, 2015). So, the troops are trained to use this tactic no matter what the intensity of the situation is. Significant differences in the use of certain sensemaking tactics between high and low intensity situations were found for the remaining tactics. The results suggest that in high intense situations the servicemen particularly draw on previous experiences in order to recognize and interpret the situation. Also, they attempt to predict the consequences of their actions, and ask others for help. On the other hand, less attention goes out to higher level "critical thinking"; moral awareness, integrating available information, and analyzing personal biases in the decision-making process in these high intense situations. Thus, it seems that in these ethical challenges the servicemen react by using an analytical manner of assessing the situation without giving room for thorough consideration and doubt regarding how their own reasoning process may cloud their judgments.

Second, our regression analyses reveal that in the low intensity situation the number of experienced deployments have predictive value for the moral intensity dimensions. Interestingly, as the number of deployments increases the situation is perceived as less harmful and serious. We believe that there are two possible explanations for these effects. For one, the servicemen may be emotionally numbed by previous encountered critical incidents (cf. Litz, et al., 1997). However, since no effect was found for the number of deployments on the perceived intensity in the high intensity situation this explanation seems unlikely. Another explanation may be that because of previous experiences the servicemen make a more objective assessment of the critical incident than their less experienced colleagues. It makes

sense that this effect is only found in the low intensity conditions as it has been generally acknowledged that under stressful circumstances the decision maker's attention tends to narrow to the most salient issues (Christensen & Kohls, 2003). Thus, in the high intensity situation it is clear that the issue is salient, whereas in the low intensity situation the salience of the ethical challenge can fall from sight. However, the results of our regression analyses indicate that when the number of deployments increases the use of moral awareness decreases.

Moreover, the results of the regression analyses regarding sensemaking in the low intensity condition show a link between the presence of the moral intensity dimensions and the use of the tactics "*recognizing the circumstances*," "*seeking outside help*," and "*moral awareness*." For the low intensity condition, the results show that when the perceived "*seriousness of harm*" increases "*seeking outside help*" and "*moral awareness*" are more reported. Also in the low intensity condition we found that when the perceived "*probability of harm*" increases the tactic "*recognizing the circumstances*" is reported less. These results are interesting since not all sensemaking tactics are linked to the moral intensity dimensions, even though there is an association between the high/low condition and the reporting of almost all tactics. These results suggest that next to the proposed dimensions of moral intensity by Jones (1991) there are other factors that play a part in the assessment of overall moral intensity. For example, De Graaff et al., (2016) already pointed at the effect of different types of interaction on emotional reactions in ethically challenging situations. In short, it is possible that the authentic critical incidents used in this study focus on different features that contribute to the overall perception of moral intensity but are not incorporated in the intensity dimensions. This is in line with previous inconsistency in findings regarding the relevance of moral intensity and its sub-dimensions in earlier studies (cf. Elm & Radin, 2012). Furthermore, Thompson, Thompson, and Adams (2008) found that, next to the moral

intensity dimensions, aspects such as “sense of own honor” and “feelings of pride” regarding personal actions in the situation also play a role in ethical challenges in a military context. Moreover, Blais and Thompson (2008) found that the perceived ethicality of possible solutions influences individual EDM, regardless of the moral intensity of that specific situation. Thus, it seems that content (i.e., the ethicality of solutions, ones role as actor, victim or bystander, etc.) influences EDM as well. In line with this, the results of the study described in this article hint that the content of the critical incident is more important in the assessment of moral intensity than assumed until now. In future research this should be elaborated on.

A third and final conclusion that can be drawn from this study is that moral intensity is best captured with a more limited number of sub-dimensions than Jones (1991) originally proposed. This is in line with earlier findings that also hint at a different composition of moral intensity as a concept (Barnett, 2001; McMahon & Harvey, 2006). Also, the general results regarding moral intensity indicate that the three dimensions revealed “*probability of harm*,” “*social consensus*,” and “*seriousness of harm*” score significantly higher in the high intensity condition than in the low intensity condition. Thus, servicemen seem to believe these elements of moral intensity are relevant in their assessment of overall moral intensity of critical incidents. It would be interesting to investigate whether these results are generalizable to other military organizations (i.e., in other cultures) and to other organizational cultures in general like other high-stake organizations such as a policing or health-care environment. These results give direction for future research regarding the dimensions of moral intensity.

Limitations

This study is not without limitations. First, we studied sensemaking in relation to moral intensity in a specific high-velocity environment, namely in military operations. Thus, it is

still an open question whether these results can be generalized to other (non-hostile) environments. However, we believe the results give interesting insights for a broader organizational field, since in the extremis of the military operations, psychological processes are clearly demonstrated. Moreover, since we used a real-life sample of active-serving military personnel instead of the often-used student samples, we believe our results to be particularly reflective of sensemaking and moral intensity in “real” environments. However, we suggest future research to look into ethical issues in different organizational settings, using a sample existing of “true actors.”

Another limitation is related to the fact that this study was conducted within the Dutch military, a culture that can be seen as individualistic and as less sensitive to contextual variations than many other cultures (Giebels & Taylor, 2009). Vitell, Nwachukwu, and Barnes (1993) suggest that cultural dimensions are likely to influence ethical considerations (e.g., societal norms and principles) and as such ethical judgment and behavior. Thus, another suggestion for future research is to replicate our findings in different cultural contexts in order to gain insight in possible differences between cultural backgrounds.

A third limitation is related to the fact that we chose to ask the participants to evaluate the moral intensity of two different critical incidents. Although these incidents were considered different especially in terms of moral intensity and highly similar in other aspects, there may have been other features of the situations influencing the servicemen's reactions. Future research might want to focus on more controlled experimental studies with highly standardized scenarios (May & Pauli, 2002; Morris & McDonald, 1995). Furthermore, we focused our inquiries on the early stages of EDM, where individuals assess the situation and try to make sense of it, instead of on the actual decision the participants would make. We assumed this to elicit less socially desirable answers as all sensemaking strategies may aid the process of responsible decisions and sensemaking is the stepping stone to such decisions.

However, the proof of the pudding would be to examine the actual consequences of such internal deliberations.

Finally, and although we have employed an often used and theoretically sound instrument to measure moral intensity, there are other good measurements of moral intensity (Leitsch, 2004; May & Pauli, 2002; Paolillo & Vitell, 2002; Singhapakdi et al., 1996) which could be included in future research. We suggest for future research to focus on the further validation of the measurement of moral intensity. After all, even though the moral intensity scale displayed a Chronbach's alpha of 0.65 for all items, the components "probability of harm" and "social consensus" displayed relatively low alphas. This suggests that moral intensity either composes of different dimensions than assumed or that the instrument we used does not fully capture the construct.

Managerial Implications

Brock et al. (2008) already argued that training in sensemaking improves EDM by means of the use of metacognitive reasoning strategies. These strategies are needed in order to objectively assess a complex dilemmatic situation. Due to the large impact their decisions may have, we recommend sensemaking training to become an integral part of military training. Also, individuals who have a clear understanding of the situation and the parties involved (including themselves) make more better-informed/meticulous decisions (cf. Brock et al., 2008; Ruedy & Schweitzer, 2010).

Since the present study reveals that in high intensity situations certain "higher order" tactics are less reported (i.e., "*analyzing and integrate available information*," "*moral awareness*," and "*analyzing personal motivations*") and having previous deployment experience influences the perception of moral intensity, the ethical dimensions of situations run the risk falling out of sight. Therefore, as they may not always be obvious, we plea for

more attention for ethical challenges in pre-deployment training and in operational debriefings. Military units can learn collectively about ethical dimensions by sharing and reflecting on experienced ethical challenges. Moreover, next to sharing experiences, we believe additional training methods may be useful in order to simulate the circumstances of high intensity situations in such a manner that they appear realistic. Serious gaming and virtual reality (VR) can simulate the complexity and arousal in the mission area, going beyond theoretical/verbal sharing and “knowing” towards true emotional and physical experiencing. As the cognitive deliberation process might be impaired by (high) intensity, training under similar conditions might be a valuable addition to current pre-deployment ethics programs.

Also, our results display that servicemen who have had earlier deployment experiences, score significantly lower on “*moral awareness*” (in both the high and low intensity condition). In the low intensity condition “*seeking outside help*” correlated negatively with having previous deployment experience. This might hint at a certain emotional numbing or “*moral blindness*” leading to overconfidence in own personal considerations (Verweij, 2005). For military leaders this is an important issue, for themselves to acknowledge as well as for their units. Especially in a context where experience often legitimizes choices, it is important to note that previous deployment experiences may lead to ethical issues being less salient, and as such influence an (accurate) assessment of the situation.

In sum, we suggest to elaborate training in stimulating awareness of the ethical dimensions in a high-velocity context in different educational settings for all ranks regardless of their level of experience. After all, individuals who are not aware of the ethical dimensions in a situation will not start with EDM, and as such not with sensemaking in order to overcome self-serving judgments (Ruedy & Schweitzer, 2010). When this is established and

individuals are trained in using the different sensemaking strategies, teams can collectively learn from sharing and evaluating previous experiences. This can lead to better work outcomes in terms of moral attitudes and EDM behavior.

Conclusion

For the general EDM-research field, this study highlights the importance of including situational aspects. It offers some first insights into the impact of the moral intensity of a military critical incident on sensemaking processes. Our findings clearly show that the perceived moral intensity of the situation impacts the likelihood that a specific sensemaking tactic is employed. This is important information for leaders and managers who want to promote ethical behavior in the workplace, whether it is during military operations or during office duties. That is, the balanced combination of different sensemaking tactics may be necessary for an accurate perspective on the situation at hand for EDM, regardless of its moral intensity.

In critical incidents the ethical challenges usually cannot be dealt with on the basis of standard procedures and daily routines. These situations are difficult to prepare for in the traditional sense of the warrior ethos (cf. Kilner, 2002). In training for high-velocity environments more attention could be placed on the importance of considering the broad range of sensemaking tactics available. Organizations that want to improve their employees' ability to make morally sound decisions, may also want to stimulate organizational learning (Stein & Ahmad, 2009). This means that learning should focus on reviewing past actions and situations (Stein & Ahmad, 2009) and implement these insights in the organization by transferring them by means of traditional as well as new educational methods, so that next generations are well versed for the ethical challenges they might encounter. However, it is important to keep in mind that our findings also suggest that having more military

(deployment) experience does not necessarily lead to a more accurate perceived moral intensity assessment of the situation.

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Notes

1. Please note that the entire questionnaire was in Dutch; for this research, all material was translated in English and checked by a native speaker.

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Appendix

High Moral Intense Scenario

On a regular patrol mission in Afghanistan, one of the troops gets injured. The medic is called in for assistance. Since the troops were on a foot-patrol in the mountains, the medical vehicle cannot get near the injured serviceman. So, the medic needs to decide - without having precise insight in the severity of the serviceman's injuries; what to carry along going up the mountain? On the one hand, the medical team wants to bring all medical equipment available with them in order to be prepared for a worst-case scenario. On the other hand, because the environment is quite hostile, they are reluctant to do so because they will have to carry their own personal safety equipment as well. The medic needs to decide whether to leave equipment – and if so what should be left behind –, since bringing all medical and all personal safety equipment means that they will be (too) heavily loaded which is therefore no option...

Low Moral Intense Scenario

There is a meeting of the village-elderly. A force protection team guards and protects this site. Local children make contact and start playing around the military vehicles. One of the children comes too close and tries to take equipment from the vehicles. This is not only prohibited but also very dangerous for the child. The servicemen try to make this clear to the children, without any effect; they keep playing nearby the vehicles and materials. One of the local men, who understands what is going on, heads towards the children and beats one of them with a stick. The Dutch are surprised by this reaction, which is according to the man the regular way to discipline children and he allows the servicemen to do the same when he is again in the meeting. This puts the servicemen in a difficult situation. The local norms differ

from their own. According to the servicemen's principles it is wrong to discipline children physically, but they need to keep the children away from the military equipment and they do seem to respond to the local ways...