

“As far as is Reasonably Practicable”: Socially Constructing Risk, Safety, and Accidents in Military Operations

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ABSTRACT. This research examines how the meaning of risk, safety, and accidents are constructed in a military context. We compare meanings of these constructs among members working for three organizations (Health and Safety Executive, Ministry of Defence, and Royal Marine Commandos) jointly responsible for planning and executing “safe” military training and manoeuvres in a particular unit of the United Kingdom’s Royal Marine Commandos. The discourse among these members embodies the inter-organizational collaboration over military safety, and through an analysis of this discourse we situate and frame shared and contested meanings of risk, safety, and accidents within this particular community of practice. We discuss implications of these findings for theory and practice, rallying for a more contextualized understanding of what risk, safety, and accidents mean in organizational life and thus the relative nature of the standards to which organizations are expected to adhere.

KEY WORDS: accidents, discourse, military, risk management, safety, social constructionism

Conceiving of safety without risk is like seeking love without courting the danger of rejection – Wildavsky (1988, p. 228).

Introduction

The scientific study of occupational safety often treats the probability of physical harm (“risk”), its steady-state prevention (“safety”), and the unexpected failure of this prevention (“accidents”) as deterministic properties of work largely separable from their social context. This is consistent with attempts starting from the beginning of the twentieth century at achieving

occupational safety by eliminating risk through technology, by de-selecting ‘accident prone’ employees, and designing ‘human error’ out of work systems to ensure workplace safety (see Nichols, 1997 for a review). Social scientific appreciation of the social construction of risk, safety, and accidents is a distinct shift in perspective. The relatively recent interest in how social processes of organizing and wider socio-cultural considerations can contribute to understanding workplace safety has generated new areas of inquiry (e.g., Gherardi, 2006; Rochlin, 1999; Weick, 1993; Weick and Roberts, 1993; Zoller, 2003).

The present research explores the meaning of risk, safety, and accidents negotiated in practice among three organizations jointly responsible for planning and implementing “safe” military operations in a particular military unit based in the United Kingdom (UK). In the present study, we first describe the ontological and epistemological standpoints from which we base this research. We then describe the institutional contexts in which the participants in the current study are based. This helps to contextualize the findings, which explore the similarities and differences among members from the Health and Safety Executive, the Ministry of Defence, and the Royal Marine Commandos. We conclude with a discussion of the findings in relation to risk management and the implications for theory and practice.

Social constructionism and communities of practice

The lens through which we explore risk, safety, and accidents in this study is social constructionism. A

social constructionist perspective considers a collective view of knowledge as opposed to a classical individualistic one (Burr, 1997). That is, knowledge is located in practices situated in the historical, socio-material, and cultural contexts in which interaction occurs, with people creating meaning through their contact with others in their environment. As knowledge is acquired by means of social participation, such contexts of interaction have been broadly conceptualized by Wenger (1998) as “communities of practice.” Communities of practice are characterized by a mutual enterprise shared by a group of individuals. An example of a mutual enterprise might be to ensure that training in a military context is planned and executed with safety of the personnel in mind. Interacting with other members of this community of practice creates and distributes knowledge that works toward defining and negotiating the meaning of risk, safety, and accidents in this context.

Communities of practice construct meanings of phenomena or experience through explicit and tacit representations (Wenger, 1998). Such modes of description, explanation, and representation originate from social relationships with other members of the community (Gergen, 1999). For instance, explicit artifacts of a community include language, tools, documents, images, symbols, procedures, and regulations. Those of a tacit nature might include norms about ways of behaving, unspoken rules of thumb, and assumptions or shared worldviews. There might be stories or metaphors within the organization that are explicit artifacts in themselves, but tacitly reflect to an outside or newcomer, for example, the accepted ways of behaving and on shared meanings. In the safety domain, stories detailing the experiences of hazardous conditions or workplace accidents might serve to structure the meaning of risk, safety, and accidents as conceptualized by that community of practice. Meanings are refined and negotiated through these experiences which circulate within the community of practice. Silvia Gherardi (e.g., Gherardi, 2006; Gherardi and Nicolini, 2002) proposes this circulation as learning, and this dynamic as the primary mode of creating, maintaining, negotiating, and transplanting meaning.

Wenger (1998) argues that participation and reification help us make sense of the social and material world. Participation refers to taking part in

the relations with others or being actively involved, and this experience serves to shape and solidify our understandings. Risk, safety, and accidents are prime examples of this. For instance, participation provides us with personal experience of or exposure to accidents experienced by others. At the same time, we may experience conditions that save us from accidents, which we then label as being ‘safe’ through our experience or the experience of others of remaining accident-free. Reification transforms that experience into ‘safety,’ which becomes a concrete term used to label and draw attention to what an acceptable level of risk might be or what it means in that community of practice to ensure people remain safe. In sum, our experience of the world through participation and reification both shapes and redefines our understandings of the world. The participation-reification dynamic exists among a community of practice. In the present study, the focal community of practice consists of a finite set of individuals from the Health and Safety Executive, the Ministry of Defence, and the Royal Marine Commandos who work together to help ensure safe military operations in a specific military unit based in the UK. While these same three organizations collaborate on a range of other activities, including the occupational safety of other military units, the focus here is only the individuals responsible for safety in one specific military unit.

Socially constructing risk, safety, and accidents

The notion that the meaning ascribed to risk, safety, and accidents can be conceived of as emergent properties of social interaction is not new. A number of researchers (e.g., Fox, 1999; Gherardi and Nicolini, 2000; Krinsky and Golding, 1992; Pidgeon, 1998) have explored how risks and safety are politicized, how differing types of knowledge inform perceptions of risk, and how these meanings reflect the social values and interests of the groups that hold them. Therefore, examining the discourse around risk, safety, and accidents in a given community of practice is one way of describing the way in which certain “knowledgeabilities” are privileged over others (Fox, 1999). We define discourse here as composed of ideas, beliefs, attitudes, and practices

that construct the subjects and the contexts of which they speak (Foucault, 1972). According to Phillips and Hardy (2002), “our talk, and what we are, are one and the same” (p. 2). Parallel to the participation–reification dynamic described above, Pidgeon (1998) suggests that to understand the social construction of safety, we need to consider discourse around risk and accidents as the outcome of a process of social interaction.

Gherardi’s study (Gherardi, 2006; Gherardi et al., 1998) of a building site operated by an Italian construction firm provides an example of research that takes a discursive perspective on workplace safety. Her research explored the perspectives of distinct but interdependent occupational groups who shared responsibility for site safety. A comparison of the discourse used by engineers and site managers revealed conflicting perspectives on accident causation and safety management, suggesting that there may be different understandings of what constitute risk, safety, and accidents in a given context. Whereas the work of Gherardi and her colleagues focused on collaboration between two occupational groups on the enterprise of safety within one organization, the present research extends this line of inquiry by exploring how interdependent members of three *different* organizations negotiate meaning of risk, safety, and accidents in a common context.

Institutional contexts

The people studied in this study (hereafter described as ‘participants’) come from three different organizations that have a mutual interest in the safety of military operations of one particular unit of the Royal Marine Commandos (RMC). In brief, the interests of the Health and Safety Executive (HSE) in this study are legislative and set out to ensure that military units such as the RMC carry out operations such as training and manoeuvres as safely as possible. The Ministry of Defence (MOD) supports the military imperative of the RMC, while also needing to heed regulatory requirements of the HSE. A change in policy, resource allocation, or operations in one organization may substantially influence policy, resource allocation, or operations of another organization. As such, the RMC, the HSE, and the MOD are represented by the participants involved in

this study and are engaged as a community of practice in planning and implementation of ‘safe’ military operations. In the next three subsections, we provide more detail on each of the three focal organizations.

The Health and Safety Executive

The HSE’s mission is “to ensure that risks to people’s health and safety from work activities are properly controlled” (HSE, 2000, p. 3). The HSE is a government regulatory body that develops standards and compiles statistics relating to the management of risk and safety. These standards are manifested in regulations (e.g., Health and Safety Act, 1974) that provide guidance for UK organizations, and sets out the duties of employers with regard to the safety of employees and members of the public who might be affected by organizational operations. At the time of this study, the HSE was organized as departments that deal with specific issues or industries, such as the nuclear industry, railways, mining, offshore oil and gas, and explosives. These departments are variously involved in developing policy for and legislating military contexts. For example, the explosives directorate might be involved in developing and implementing policies for safely storing weaponry and ordnance in collaboration with the MOD and armed services units, such as the RMC.

The Ministry of Defence

The MOD and the armed services work together to strengthen international peace and security. The MOD harnesses the three armed services (the Royal Navy, the Royal Air Force, and the Army), defence civilians, and all their resources to deliver their stated defence mission:

The purpose of the Ministry of Defence, and the Armed Forces, is to defend the United Kingdom, and overseas Territories, our people and interests, and to act as a force for good by strengthening international peace and security. (MOD, 1999)

The MOD is responsible for all UK military organizations, including personnel safety in each of these organizations and coordinating safety–training

courses for military personnel. Civilian members of the MOD make decisions regarding safety courses, such as which members of the three armed services will receive what training. Furthermore, risk assessments of military contexts are coordinated through the MOD and are carried out on a continual basis in collaboration with a range of individuals spanning the HSE to the soldiers on duty.

The Royal Marine Commandos

Although they are part of the larger government organization of the MOD, the RMC is also an autonomous organization in its own right. RMC consists of three main commandos units, and by comparison to other armed services are relatively small with a force of only 6500 members. The job of a Royal Marine is potentially unpredictable and a dangerous one. Under conditions of war and or on other manoeuvres, Marines actively face physical risk. In addition to military duties, Royal Marines conduct fishery patrols, search and rescue, assist in natural disaster relief, and are regularly involved in civilian operations against terrorism, crime, and drug trafficking. The focus in this paper is on one specific unit of the Royal Marine Commandos.

Method

The second author conducted a 40-min tape-recorded interview with a full-time RMC weapons instructor as a way of orienting herself to key issues, terminology, and to gain more information into how members from HSE, MOD, and RMC collaborate on regulating and implementing 'safe' military operations.

Information gathered in this exploratory interview provided us with a basis for our theoretical sampling: participants who were involved in the inter-organizational collaboration on military safety, particularly as it relates to one unit of the RMC. We selected participants for the study on the basis that they interacted with specific participants of the other two organizations to conduct the business of military safety. For example, in the case of the HSE, we chose participants for their explicit involvement in inspecting and implementing regulations that applied

to the operational environment of this RMC unit. While we are conscious of the need to provide readers of this paper with detailed information about the specific nature of the collaboration or geographic location of the military unit, we needed to balance this with withholding sensitive information that may threaten the anonymity of the study's participants or the detailed nature of military operations. As such, we cannot describe the particular activities of participants' collaboration beyond providing assurance that they worked closely (i.e., met regularly, spoke often on the phone, corresponded frequently over e-mail) in helping to ensure safe military operations in this RMC unit.

In total, there were six participants from these three organizations involved in this endeavor: two were members of the HSE, two were civilian employees of the MOD, and two were from the focal RMC unit. We conducted one semi-structured interview with each of the six participants in the summer of 2001. The duration of each interview ranged from 45 to 90 min, and was tape-recorded with the permission of each participant. The interviews covered a range of topics from the participants' roles in military safety, their perceptions of their respective organization's aims, their accounts of recent accidents during military operations, and their perceptions of the distribution of roles and responsibilities concerning military safety within and between the organizations (see Appendix for a list of interview themes).

To break down the transcripts into coded sections of text for analysis, the first author transcribed the interviews and then imported the files into QSR NVivo (QSR, 2000). Our analytical strategy combined template analysis (King, 1998) and the interpretative assumptions of discourse analysis (Phillips and Hardy, 2002; Wetherell et al., 2001). More specifically, we used template analysis to identify sections of text in which participants talked about themes of risks, safety, and accidents. We then approached further analysis of the data using these three broad templates, exploring not only how people talked about risk, safety, and accidents, but also what they chose to include in their accounts of these constructs. We made no *a priori* assumptions about how participants would talk about these issues, and returned to sections of the transcripts from participants within the same organization and across the other two organizations to make recurring

comparisons over the course of the study. The focus for analysis was on the function of discourse as a social practice for constructing and conveying meaning, paying particular attention to the patterns, and rhetorical devices by which meanings are constructed.

Results

We divide the Results section into two parts. The first part describes the discursive similarities among the participants across the three organizations, which we labeled as an “as far as is reasonably practicable” orientation. The second part explores the differences among the participants’ discourse, for which we focus on the meaning of accidents as an exemplar. As a way of substantiating our interpretation in both sections, we include excerpts of the transcripts (labeled at the end of each excerpt with the pseudonym of each participant and their organizational designation – HSE, MOD, or RMC).

Discursive similarities: ‘as far as is reasonably practicable’

In the preface of this study, we cited Wildavsky’s (1988) adage about the relationship between risk and safety: one needs to embrace risk before one can conceive of safety. Wildavsky’s quotation can be seen as representative of one of the main themes shared by the participants in this study. Analysis of their accounts suggested an orientation of “as far as is reasonably practicable” toward risk and as such safety. We describe below what we identified as various elements to this orientation:

Employers have got to provide places of work that are so far as reasonably practicable, safe, and without risks to health. That phrase of ‘reasonably practicable’ means that the onus is on the employer to determine what is needed. [DT, MOD]

In addition, there was a sense that to regulate away all physical risks that are part of the military context would disable these organizations from carrying out their duties. A participant from the HSE went on to describe the balance between getting the job done and safety requirements, and what he looks for in assessing military operations:

...but obviously in a military job, it’s a risky job and you can’t avoid that. So what I would be looking for is for the organization to describe to me what it does, what its doing, and what assessment it has made of the hazards and the risks. [BS, HSE]

Determining what is needed involves a trade-off between implementing safety in the military environment, and the need for military personnel to be able to do their jobs, which often requires exposure to physical risk. Part of this account is consideration of military work as an outlier in comparison to work in commercial organizations. The defence imperative involves military personnel working in what are often hostile environments, and as such the military environment contrasts to most commercial environments. Military activities involving physical risk are acceptable only in that occupational context, such that risks considered acceptable in military environments would not be acceptable in civilian companies.

They [HSE] realise that the defence imperative is important. They appreciate that we must train and do things which if we were a civilian company we wouldn’t be doing. [SR, RMC]

There was also recognition of the difference between acceptable levels of risk in training or routine manoeuvres and combat environments. At the time the present study was conducted, places like Kosovo and Sierra Leone were highly dangerous environments for UK armed forces. Getting the job done effectively meant exposure to more risks than would normally be acceptable:

If you’re out in the middle of Kosovo, or Sierra Leone, and your role is either hunting for guerrillas or to help refugees or whatever, then clearly the balance of risk against cost is much different because the nature of the place alone affects the risks that are involved. The risks for refugees, for example. If you don’t get them out, then they might be attacked. So you don’t worry about putting perhaps decent rails around the lorries to get them out, you know, to speed things up a bit. So the sorts of things that you wouldn’t normally tolerate would be tolerable, given the circumstances. You know, you shouldn’t lean out of helicopters as a matter of course. But if you’re looking for guerrillas in the jungle... [KS, MOD]

In this case, what renders risks acceptable are the gains that can be made in terms of fulfilment of the

military imperative. The text featured here also helps to substantiate what the participant from HSE said above about the need to consider what the organization does as a way of determining whether risks are justified.

Just as there is an apparently acceptable level of risk that is appropriate in military operations, this also applies to training exercises. There is a polarity constructed between tolerable and intolerable risks depending on the context to which they belong. There was agreement that operational training plays a vital role in the balance between getting the job done and getting it done safely. ‘Getting the job done’ means taking into account the aims of the Royal Marine Commandos, while safety means *contextually appropriate* ways of reducing risk. Consider this quotation from a RMC participant:

We have to train for it because if a submarine can’t come back up to the surface, we can’t say to the guy for the first time ‘go out and hold your breath, and you’ll be okay, mate’. So we have to train to a level which a civilian company wouldn’t do. [AP, RMC]

In this account, an understanding of the importance of training for preparation for risk and accidents is constructed. Use of “for the first time” suggests someone who has not encountered a particular situation or conditions and is ill-prepared for what he or she will encounter. “Go out and hold your breath” illustrates the approach to accidents that AP [the speaker] believes a civilian company might take, but is not acceptable in a military context. Comparing the “level” of training against a civilian company defends and positions military

training above the standard that would normally be applied in a commercial setting. That is, training in this way enables soldiers to become accustomed to the risks they will face in battle, which helps to promote safety in the long term.

Discursive differences: accidents as an exemplar

In the previous section, we highlighted the ‘as far as is reasonably practicable’ orientation as a common theme. However, analysis of risk, safety, and accident discourse illustrated a number of differences in constructed meanings for the participants in each organization. What the participants chose to include in their accounts during the interviews constructed and defended the issues that seemed to be at the forefront of their institutional mandates. The ways in which the participants used language enabled them to demonstrate the credibility of their accounts, constructing organizational realities in the eyes of researchers, and the outside world.

Table I highlights the most salient differences among discursive themes that participants drew upon to construct their accounts of risk, safety, and accidents. As an exemplar, we feature in detail here only one significant difference among the accounts, namely the varying emphasis placed on accidents in military contexts.

With the use of specific military accidents as examples, the HSE participants constructed the causes of accidents as the result of procedural failures, inadequate risk assessments, and the failure of reporting systems. Their use of actual military examples served

TABLE I
Thematic summary of participants’ discourse on risk, safety, and accidents

Organization	Discursive themes
Health and Safety Executive (HSE)	Procedural failures Inadequate risk assessments and reporting systems
Ministry of Defence (MOD)	Safety regulations provide reference points for generic principles Isolated incidents versus the ‘real’ causes of accidents Criticism of emerging compensation culture
Royal Marine Commandos (RMC)	Extreme regulations changing the nature of safety Dynamic risk management on the job Resistance to generic principles Safety compliance as an operational (rather than regulatory) objective

to increase the credibility of their military safety knowledge and illustrate in concrete terms how their attributions about the causes of accidents were ‘correct.’ Furthermore, their accounts of risk, safety, and accidents favored generic safety principles (i.e., those, that from their point of view, can be applied to any occupation) as the optimal way of targeting risk and promoting safety, while simultaneously recognizing the unique attributes of military operations. Safety regulations were the way of translating such principles into practice:

[anonymous] was a cadet that was run over because of an, on a night exercise run for some cadets. They had done some risk assessment for the exercise, didn’t reassess what had happened, didn’t communicate that change to the other group. When the two groups met, the Landrover, which was just supposed to park, drove out onto some ground and drove over the girl, and she died. So that’s an example of where there was a failure to properly risk assess the exercise, a failure to reassess after the exercise, the change and a failure to communicate that change. So you’ve got a number of procedural and human factors influencing that. [CM, HSE]

In the above excerpt, this participant encases the cadet’s death between the antecedents: “They had done some risk assessment for the exercise, didn’t reassess what had happened, didn’t communicate that change to the other group,” and then reiterates and reinforces the causes again, after mentioning the actual event: “and she was run over and died. So that’s an example of where there was a failure to properly risk assess the exercise, a failure to reassess after the exercise, the change and a failure to communicate that change.” Positioning the causes in the discourse after talking about the event implies to the listener that some form of intervention *could have* prevented the accident, had there been adequate risk assessments and communication among unit members.

In further support of this observation, claims are made to the failure of formal procedures in accidents. Again, this is positioned against an accident that occurred in the military:

During the night exercise, weapons were fired and blank ammunition had become contaminated or mixed up with live ammunition. Now we know that

the [RMC] has formal procedures for managing exercises and for working with live ammunition and with blank ammunition and we don’t try and second-guess those procedures. But what we would say to the MOD [Ministry of Defence] is, you know, why have those procedures not worked in this case? [BS, HSE]

In contrast to the accounts of the HSE participants, there was little priority given to specific military accidents in the accounts of the MOD participants. The primary purpose of the MOD participants’ discourse was to construct the fallibility and inhumanity of the ‘compensation culture.’ This is not to say that this is the way these participants believed safety should be, but rather their accounts expressed implicit grievances about the way in which this compensation culture was changing the nature of safety. The following extract is a good example of how this fallibility and inhumanity was constructed:

The transport and road research labs would cost the value of a life at, er, I think it’s about seven hundred and fifty thousand pounds. Now if your partner were to be killed, would seven hundred and fifty thousand pounds compensate you? Of course not....Nothing could bring that person back. So that raises a number of issues. First of all, why are we heading towards a clearly compensation orientated culture? How can you cost things in terms of a value for a life? To my mind, three quarters of a million pounds would in no way compensate me for the loss of my wife or kids. And so no money is acceptable under those circumstances. [DT, MOD]

Here, the participant makes a strong case against claiming compensation, arguing the fallibility of various government departments putting a figure on the value of a human life. Appealing to how inhumane this approach to life is reinforces this. In the interview, this participant asked the first author if money would compensate her for a lost loved one. This is effective in appealing to her emotions and moral reasoning, since she has no option here but to agree with this appeal.

Further, as part of their accounts, there was some resistance among MOD participants to overly extreme regulations changing the nature of safety and criticism of the way the public reacts to what the participants constructed here as isolated incidents. By

way of comparison, non-military accidents were used as examples. For instance, appeals were made to the fact that thousands of people die of smoking each year, yet a handful of people die in a train crash, “and the whole world goes bananas” [DT, MOD]. While this train crash example was not a military accident, it was clear that the participants used this particular example to parallel what they thought was the public’s over-reaction to isolated accidents in military training.

Although some examples of military accidents were used in their accounts, RMC participants showed some reluctance to discuss specific incidents. Accidents were discussed in general terms. For them, interventions preventing accidents and promoting safety are dynamic and operational. While risk assessments were recognized as being important for the prevention of accidents, these are translated into operational procedures. For example, a risk assessment is a “battle appreciation” in their terms:

If you said to most people in the Royal Marines a few years ago, ‘health and safety,’ they would have run a mile. If you had said to them ‘you are going to attack that hill, don’t take any casualties,’ they would have done whatever they had to do in order to do it safely, as safe as they can. And that would have been health and safety under a different name. Without getting into war type situations, if you’ve got a body of men, and you have to get from A to B through enemy positions, the commander does a battle appreciation. He decides which is the best way to go. He has a thing called force protection to defend his own men. If the enemy are on the right, he goes left. That’s a risk assessment, surely? But if you told them they were doing a health and safety risk assessment, they would have run a mile. [SR, RMC]

Such risk assessments are ongoing in the sense that they need to be carried out continuously, in response to changing activities and circumstances within the operational activity. In their accounts of risk assessments, RMC participants offered some resistance to generic safety principles, in the belief that an operational approach to assessing risk is more synchronized with the unpredictable nature of military work. Safety is constructed as operational by illustrating the limits of generic procedures in a military environment. For military personnel, safety is an implicit part of performing operations and

missions successfully. While this RMC participant quoted above acknowledges the need for safety regulations, he also makes appeals to ‘doing’ things, which suggests that for him, safety is action in practice, rather than abstraction in regulation.

Discussion

The focus of this study was the discursive similarities and differences among participants from three organizations responsible for safety in a particular unit of the Royal Marine Commandos. They variously constructed an appeal to calculate the balance between getting the job done and implementing safety, defending the uniqueness of military occupation, managing the respective identities of the three organizations, and constructing the participants’ relative institutional roles in military safety.

The discursive resources drawn upon by participants when discussing risk, safety, and accidents suggested a tension between getting the job done and managing safety. In other words, safety was constructed ‘as far as is reasonably practicable.’ Several discursive resources were used to accentuate this meaning and demonstrate its robustness to the receiver. In terms of the cost–benefit of training, rhetoric balanced the costs in terms of risks to service personnel against the benefits of risk exposure for promoting safety in the long term. Other rhetorical forms used to construct the meaning of what was “reasonably practicable” was the positioning of military organizations in contrast to commercial organizations, as well as the shared understanding of accidents as unexpected. That is, one could implement a range of countermeasures but accidents may occur due to unforeseen circumstances. Framing safety and accidents like this serves to justify what an outsider may see as unjust and even uncontrollable exposure to risks. This served as a solid base from which to discuss the distinct approach to military safety, as it helped to reinforce the assumption that there will be necessary risks involved in getting the job done.

Additionally, participants defended the military occupation against the scrutiny of ‘outside’ researchers, and even fellow participants. That is, the discourse constructed an image of three organizations that

would secure the safety of its personnel “as far as reasonably practicable.” Given the public scrutiny these organizations were facing at the time for accidents in military training, this is hardly surprising. Meaning is constructed in and through others, and the context of the interviews we conducted doubtlessly shaped the way the participants constructed risk, safety, and accidents – just as every context shapes the meanings people construct (Berger and Luckmann, 1966). Finally, while these participants interacted with one another on a regular basis to negotiate safety practices, policies, and procedures, it was also likely that there was a fear of retribution if a participant of one organization unduly criticized another. Participants knew that we would be interviewing members of the other organizations involved in safety of this particular unit. Consequently, the discourse may have also served to construct and maintain relationships among participants in the other two organizations. Taken together, we see from this research that the way the role of each of these three organizations in safety is conveyed and the participants’ own constructions of safety are influenced by both their membership of separate organizations as well as the joint inter-organizational responsibility for safety.

A last important function of discourse revealed in this study was how the role played by each organization in military safety was reflected through the content of its participants’ accounts. In accounting for accidents, the HSE participants referred to procedural failures, risk assessments, and reporting systems. This is also reflective of the role of the HSE in compiling standards and legislation and ensuring these policies are put into practice. The common themes in relation to military safety role that emerged in the accounts from the MOD participants focused on following safety regulations by converting the standards into policies that were applicable to the military context. The RMC participants’ discourse centered on converting these standards into practice in the field, and how operational realities meant they were infrequently reinterpreted.

Study limitations and implications for future research

As with all research, it is necessary for us to recognize several limitations of the current study. First,

investigating the socially constructed meanings of risk, safety, and accidents through the discourse of organizational participants is not an attempt to generalize meanings of risk, safety, and accidents held by all members of each organization. Rather, the interpretations of the discourse expressed here reflect the intersection of the constructions of the individuals concerned and our interpretations as researchers, with a focus on how the priorities of the community in which the participants worked are reflected in their talk. In this regard, their collaboration over RMC safety is the discursive space in which meaning is constructed.

Second, issues surrounding military safety are complex and cannot be reduced to a few simple principles. We collected interview data from six participants and this revealed a range of meanings of risk, safety, and accidents. Because of this complexity and the scope of this article, our analysis here described the most salient issues and features stemming from these accounts, and does not attempt to explain a causal process from negotiation over safety to cause and effect in military operations.

Findings from this research, however, suggest some new directions for the way organizational safety can be explored from a social constructionist perspective. Future research could observe in real-time inter-organizational safety meetings, investigating how meaning is directly negotiated through discursive contests in formalized settings. Extending this even further, future research could adopt a network approach with organizational learning of safety consisting of knowledge that resides in heterogeneous networks of relationships between organizations, focusing on the organization of safety as a set of interlocking and shifting relations, rather than describing similarities and differences (Araujo, 1998; Gherardi, 2006; Hernes, 2004).

In the same way albeit from a less macroscopic perspective, longitudinal research could examine the changes in socially constructed meanings over time, and investigate how particular experiences (e.g., severe accidents) punctuate these meanings. This would not only make an important contribution to a socially constructed understanding of safety, but also have implications for the way safety science models the development of safety climates (e.g., Parboteeah and Kapp, 2008; Zohar and Luria, 2004).

Implications for and integration of practice and theory

Although the findings of this research describe the nature of risk, safety, and accidents among participants of three organizations, there are some resulting implications relevant to broader theory and practice in other organizations. First, in line with the social constructionist notion of socially-situated knowledge, risk policies and safety-related interventions need to take into account context when managing risk and safety (Krimsky and Golding, 1992). For example, through analysis of employees' accounts of accidents, organizations can establish what employees constitute as violations of safety, as opposed to what espoused regulations dictate as official practice (Kelloway et al., 2004). In contrast to off-the-shelf safety interventions or generic risk assessments often used in industry, understanding the way communities of practice make sense of safety would help to ground appropriately any analysis of safety procedures or accidents in the contexts in which they occur.

Second, given the nature of the way that safety-critical work now takes place between different contractors or between organizations (such as the cooperative relationship between the three organizations in this study), understanding the discourse used by those with access to multiple perspectives may help to diagnose reasons for intra-organizational and inter-organizational behavior around workplace safety. Understanding the discourse used among participants in the three focal organizations helps to describe the mechanisms by which meaning is maintained and the ways in which particular meanings generate organizational identities. For example, in a study by Watson (1995) on the rhetorical dialogue between two managers, the self-interests of the two participants were at the fore, with discursive struggles contributing to the way in which participants become defined. Similarly, Boyce (1995) found that there was a collective effort to protect the shared meaning in the organization from change by filtering out anything that contradicted the collective sense. Inter-organizational collaboration brings distinctive aims and agendas to social participation, and draws on discursive resources in different ways at different times to achieve their particular purposes, whether these are fulfilling organizational interests or individual sensemaking of political struggles.

Third, it may also be worth considering whether discussions of safety are really about safety at all. The process and outcomes of battles over safety regulations may better reflect shifting political tensions and reinforcement of the identities that set them apart. In this study, we showed that one of the functions of discourse was to defend the military occupation in light of media scrutiny it was facing at the time of this study. Dutton and Dukerich (1991) distinguish between the organizational image and the organizational reputation, such that reputation describes the attributes outsiders ascribe to an organization, whereas image describes insiders' assessments of what outsiders think. The discussions and negotiations over safety may be more about protecting an organization's identity than an interest in coming to any consensus over military safety. In the current study we have shown that the RMC has pressure to maintain its identity as a military force as well as safe organization, not only to the HSE but also to its members and the general public. Further, if part of the military identity encompasses safety, soldiers may be more likely to behave in a safe manner according to what that group or organization construes as safe. An organization's image and identity guide and activate individuals' interpretations of an issue and motivations for acting on that issue, and this in turn affects organizational action over time (Dutton and Dukerich, 1991). If a salient part of that organizational identity included safety, then perhaps organizations could look at the effects of the socialization and initiation processes on subsequent safety performance.

Conclusion

This article examined how the meanings of risk, safety, and accidents were socially constructed by members of three organizations jointly responsible for planning and implementing "safe" military operations in a particular military unit. The three organizations were bound through an 'as far as is reasonably practicable' orientation: the recognition that while the risk of physical harm and its occasional failure is inevitable in military work, there is also a necessary gesture toward accountability that is central to managing risk, safety, and accidents in commercial and regulatory environments. The different

reference points from which these participants made sense of risk, safety, and accidents served to illustrate not only the positions over which interaction and negotiation occurs in this particular community of practice to ensure military safety, but also reflects and reinforces the identities of the three different organizations involved in this collaboration.

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Appendix

Semi-structured interview schedule

1. Role information

- (a) Job title
- (b) Role and activities
- (c) Length of service
- (d) People you work with
- (e) Background in safety work/experiences/courses

2. Enterprises and aims of HSE/MOD/RMC

- (a) Similarities and differences in aims of the organizations
- (b) Values/mission statement of organization: What does it seek to do?
- (c) Main structure and specialty?

3. Distribution of safety responsibility

- (a) What specialties/individuals deal with safety issues?
- (b) What aspects of safety are organized centrally?
- (c) How does the management of safety operate between the three different organizations?
- (d) Who shares this responsibility for safety?
- (e) Anyone else involved in regulating safety?

4. Understanding safety and risk

- (a) Safety is...(using any means necessarily to illustrate)
- (b) Properties/characteristics/qualities of safety
- (c) Relationship to safety management strategies
 - (i) Is safety static or dynamic? Is there an optimum level?
- (d) Risk is...(using any means necessary to illustrate)
- (e) Properties/characteristics/qualities of risk
- (f) What would constitute the presence of risk?
- (g) War versus training situation: Is there a qualitative difference?
 - (i) What are acceptable and unacceptable hazards in these situations?
- (h) Main causes of accidents?
- (i) How is safety knowledge distributed amongst members of the community of practice?

5. Illustrative examples

- (a) What are the main risks that Marines face?
- (b) What is the best way to ensure Marine safety?
- (c) What are characteristics of unsafe operations?
- (d) Stories, metaphors, or examples to illustrate?
- (e) Personal workplace experiences that have shaped your understanding of risk/safety?

6. Improving safety and managing risk

- (a) What is the role of Marines in their own safety? Improving safety/managing risk?
- (b) What is the relationship between managing risk and managing safety?

7. Other issues (Open for discussion)

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