Gendered communication and public safety: women, men and incident management

Dr Christine Owen, University of Tasmania, details research into the effects of gender on team communication and discusses ways to overcome the negative impacts.

ABSTRACT

Managing emergency events requires incident management teams to actively pool their ideas and concerns to resolve challenges, although this frequently does not occur. Using a mix of quantitative and qualitative research methods, this paper explores whether gender may be an underlying factor. The quantitative findings indicate that women report different experiences of communication in incident management teams. In seeking to provide an account as to why this might be the case 24 qualitative interviews with incident management team members were examined. The findings reveal cultural challenges to team communication and specifically a masculinist culture (i.e. acting with high confidence and bravado). The legitimacy of these displays is contested by both men and women because of their negative impacts on team communication and co-operation. Strategies for overcoming the negative impacts of masculinist cultures and the role of leadership and training are discussed. ®

Introduction

Identifying and communicating signals that indicate potential areas of concern or failure in emergency management response work is imperative. However recent research identifies that there are barriers in teams to speaking up (Barton and Sutcliffe, 2009; Lewis *et al.*, 2011). In part this is because the communications culture within incident management teams is not always conducive to speaking up to test assumptions or express concern. This is, in part, because of the complexity and demands that such teams have to manage during emergency events.

This complexity comes from a range of interdependencies in social, technical and infrastructure systems that increase vulnerability (Boin and 't Hart, 2010; Yates and

Bergin, 2009). The impacts of a disaster experienced in one community can affect many others because of a reliance on, for example, energy, transport or agriculture (CSIRO, 2010; COAG, 2011).

Managing emergency events is more complex in consequence because there is now a reduced tolerance of failure (e.g. Bigley and Roberts, 2001; Boin and 't Hart, 2010; Murphy and Dunn, 2012). Public opinion about what constitutes appropriate or poor management of emergency events places decision-making during such events under increasing forensic scrutiny (VBRC, 2010; GWA, 2011; QFCI, 2012). For emergency managers whether incident management is judged a success or failure is externally determined and done so in a post-hoc and arbitrary manner (Owen 2012). The consequences of decisions made thus become more important.

Research into team performance in safety-critical industries (e.g., Weick, and Sutcliffe, 2001) suggests that communication is vital to enable the constant adjustments that are needed in managing complex and dynamic events. It is important to understand the experiences and perceptions of those responsible for managing emergency events and to assess their perceptions of the relative strengths and weaknesses in incident management teamwork to better understand what may need to change.

The people comprising incident management teams in emergency events (sometimes called emergency management teams) come from diverse backgrounds. They include men and women of differing ages, experiences and interests. Yet all need to work together to co-ordinate and achieve common and agreed purpose. Effective teamwork is therefore essential to achieve highly-reliable organising under conditions of information ambiguity, complexity and constant change, as is the case in fast-moving, unfolding emergency events.

High-reliability and team communication

Organisations deliver highly reliable performances when members have the ability to prevent and manage mishaps before they spread throughout the system causing widespread damage or failure (Barton

and Sutcliffe 2009, p1329). This occurs when team members engage in social mechanisms for monitoring and reporting small or weak signals to one another (e.g., that something might be wrong) and members have the capacity to adjust to these changing conditions. Thus members have both the flexibility required and the capability to respond in real-time, reorganising resources and actions as necessary. In this regard high-reliability organising and safety is achieved through human processes and relationships. Members share what they know, raise concerns about weak signals of possible failure, and the team adjusts, tweaks, and adapts to these small cues or mishaps. If these signals are left unaddressed they could result in larger problems and potential failures in safety.

However, the ability of people to speak up requires an open communications climate and psychological safety (Edmondson, 2005) so that multiple perspectives can be heard and actions re-evaluated and adjusted. In their research Barton and Sutcliffe (2009) interviewed 28 experienced firefighters and from those interviews extracted 62 cases of incidents that had either gone well or had resulted in bad outcomes. A key difference between those that ended badly and those that did not was the extent to which individuals voiced their concerns about the early warning signs. Doing so creates an opportunity to stop and reassess. The existing plan of action may still be appropriate though early warning signals may mean adjustments are required.

Incident management teams must pool their ideas to meet the challengers of emergency situations.

High-reliability and voice

Researchers in fire and emergency management in the United States characterise the ability to speak up and raise concerns in emergency management response as "voice". Lewis, *et al.*, (2011) discuss how avoiding injury or even death on the fire line may depend on firefighters voicing their concerns. However, they also note that this occurs infrequently. Their study, involving in-depth interviews with 36 wild-land firefighters in the US, explored the reasons why firefighters did or did not voice their concerns. They noted that reasons for not voicing concerns may be because certain

external cues were not recognised. However, in large part, they concluded that not speaking up was due to social influences that inhibit people from doing so. These included:

- fear that no-one will listen
- pressure to remain silent for career concerns, and
- failure due to becoming distracted or complacent.

In a similar study Barton and Sutcliffe (2009), reported that other important factors inhibiting the ability to speak up included leader behaviour (e.g., failing to test assumptions or look for countervailing views) and follower behaviour in remaining silent in deference to perceived leader expertise.

The question remains, how does organisational culture impact on voice and to what extent might culture and voice in emergency management be gendered? This paper reports on findings from research set out to address the following questions:

- Are there any differences in the reported experiences of men and women working in incident management teams?
- To what degree is the culture of fire and emergency services gendered and what are the implications for voice in team communication?
- What are the possibilities and constraints that may need to be addressed for the future?

Gender and emergency management

Gender in emergency management is a little researched or understood topic (Enarson and Chakrabarti, 2009). This is interesting given that disasters are not gender neutral (Chauhan, 2008). Where there has been research, attention has been unbalanced with an emphasis largely on disaster mitigation strategies (Enarson and Morrow, 1998; Enarson and Chakrabarti, 2009), disaster preparedness (Erikson, *et al.*, 2010) or recovering from events (Maithreyi, 1997). Enarson and Chakrabarti (2009) for example point to the increased vulnerability of women following disasters. The impacts on women, particularly the poor and those in less-developed counties, are much more profound. Moreover, stereotypes of women prevail, as women are portrayed as passive and victims (Childs, 2006). This occurs, despite the finding that women are best placed in communities to organise and lead recovery efforts because of their networking, management skills, and local knowledge (Enarson and Chakrabarti, 2009).

In the context of emergency management response, researchers and scholars have long commented on the absence of women, both from emergency management response and leadership positions (see for example Drabek, 1987; Wilson, 1999). However, there have been some notable exceptions (see Pacholok, 2007; Lois, 2001; Maleta, 2004).

Pacholok (2007) for example, explored the case of a catastrophic wildfire in Canada in 2003. She conducted in-depth interviews with 40 firefighters along with field observations and secondary documents analysis

in relation to the reporting of the fire. She reported how the firefighters struggled to come to grips with what happened, in part because the occupational identity of firefighting is built on a culture of winning. She observed that being involved in a fire that was regarded as a failure undermined a firefighter's privileged occupational status and established different hierarchical firefighting groups.

Researchers examining the role of gender in high-risk activity have contended that men and women perceive (and act on) risk differently (Lyng, 1990; Lois, 2001). In examining gender in emergency rescue teams in North America for example, Lois (2001) conducted an analysis of 20 men and 10 women in rescue work through participant observation and in-depth interviews. She observed that men would engage in high confidence displays and assert that they could out-perform each other, discussing their own strength and bravado during social hours at the bar. According to Lois and to other gender scholars (e.g., Connell, 1987; Beneke, 1997), this represents a culture of masculinity. Hegemonic masculinity is reproduced and reinforced through media and through social interaction. In the media for example, men's performance is glorified as heroic through their physicality, their daring behaviour, their power and their emotional detachment. Such masculinity is seen as hegemonic in that it is dominant over alternative masculinities held by, for example, gay men or nurturing fathers (Kimmel, 2008; Connell 1987). Lois (2001) notes that masculinity, but not femininity, must be constantly proven. It is also important to point out that norms of behaviour regarded as appropriate within a masculinist culture can be practiced by both men and women.

Other researchers contend that women cannot be stereotyped into passive or lower ranked roles since, drawing on Foucault, power is productive and relational rather than simply repressive and hierarchical (Cooper, 1994). In research conducted by Maleta (2009), the gendered and cultural experiences of Australian female firefighting volunteers were examined. She concluded that women experienced both inclusion, in terms of camaraderie, fellowship and community participation, and exclusion in terms of leadership and bravery. Her research suggests that by actively participating in a masculinist socio-cultural context, women were not subordinated or marginalised but were simultaneously challenging and recreating cultural norms and perceptions. "The positioning of women within a male culture is not straightforward and it is presumptuous to assume female oppression or subordination when traditional roles and identities are undergoing transformation" (Maleta, 2009, p296).

Image: Christine Owen

Women and men play an active and co-operative role in incident management teams.

Method

The findings reported here are drawn from a wider study, conducted from 2006 to 2012, investigating the communicative practices of incident management teams in Australia and New Zealand. Following ethics approval from the University of Tasmania, the research methods included two organisational surveys (2008; n=676; and 2011; n=206); interviews with 24 personnel engaged in incident management teamwork, along with 80 hours of observations of incident management teams[1]. The discussion draws on research from the first organisational survey and uses data from the second survey, the interviews and the observations to triangulate and explain some of the survey findings.

The organisational survey was first piloted with relevant industry groups which included Australian and New Zealand representatives. The survey was distributed to 25 fire and emergency services agencies[2] with instructions to achieve a stratified sample of personnel working in key functional positions. These were:

a) on the fire or incident ground

b) in various functional units of incident management teams, and

c) in regional and state[3] positions.

Where the sampling instructions were followed the surveys achieved a 54 per cent response rate. Two agencies, in addition to following the sampling instructions, placed the survey on an intranet website. Given that responses from these agencies accounted for less than 7 per cent of the overall survey responses this is not likely to have impacted on the sample.

The survey consisted of five parts. The first part asked participants to think about and provide details on a recent emergency event where they had performed their designated role. Parts 2 to 4 of the survey asked

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1. For more details of the various research conducted, please refer to the Bushfire Cooperative Research Centre www.bushfirecrc.com/projects/8-1/effective-incident-management-organising.

2. State level agencies in Australia and their equivalent in New Zealand.

3. National in New Zealand.

participants to respond to Likert-type statements[4] that sought information on perceptions of teamwork; information flow between teams; and levels of satisfaction with organisational processes. The final section sought demographic information about the participant.

In describing the type and characteristics of the event, 70 per cent of respondents reported on a Level 3 incident. In Australia and New Zealand the Incident Control System is graded at 3 levels with Level 3 as the most serious. Of the 71 survey respondents describing urban incidents, the median was a 4th alarm. The alarm number indicates the amount and type of resources required and actions taken, therefore relating directly to the size of the incident. A 4th alarm is a complex incident. In reporting what was under threat in the incident (used as the referent by the participant), 60 per cent reported that life was under threat while 78 per cent reported homes and buildings under threat. It can be concluded that the events reported in the survey by participants were serious and personnel were facing reasonably high consequences.

Where information was provided on the sex of the participant 478 (86 per cent) were men and 78 (14 per cent) were women. Women were also more heavily concentrated in the incident management team areas of planning and logistics (see Table 1). The proportional representations in the survey sample of men and women in certain emergency management roles and functions is consistent with what was also noted in the observations conducted in five states in Australia[5].

The survey sample was, however, more heavily populated by personnel engaged in employment relationships with agencies—451 (82 per cent) of participants were employed in a full or part-time basis

Table 1. Incident management team gender mix.

	Male N (%)	Female N (%)	Total (M &F) N (%)
Fire ground/ incident ground	100 (21)	7 (9)	107 (30)
IMT IC/DIC	113 (24)	4 (5)	117 (29)
• Operations	93 (20)	3 (4)	96 (24)
• Planning	82 (17)	33 (43)	115 (60)
• Logistics	33 (7)	17 (22)	50 (29)
IMT others	12 (3)	3 (4)	15 (7)
Above the IMT	43 (9)	10 (13)	53 (22)
Total N (%)	**476 (100)**	**77 (100)**	

and 94 survey participants were engaged as volunteers. There were no reported statistically significant differences by sex in employment relationships in the sample.

The age and experience levels reported were slightly lower for women. The median age of women in the survey was reported as 37 years and the median age of men was 45. Personnel in positions of decision-making authority, such as incident controllers were considerably older. Almost all of the 104 incident commanders/controllers surveyed (97 per cent) were men, with a median age of 53. The median number of major incidents attended for women was 6-10 incidents and the median for men was 11-20. The demographic profile of the survey sample is consistent with the observations conducted. For example, in the 25 observations conducted no women incident controllers were observed.

Results and discussion

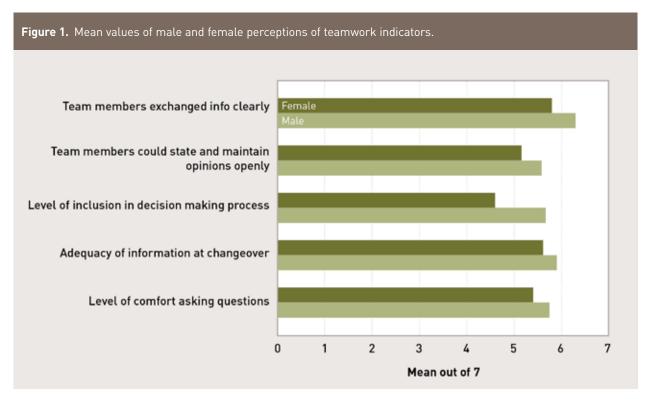The results are discussed around four themes.

Gender and teamwork communication

Men and women reported statistically significant differences in key aspects of teamwork climate, information flow between teams and experiences of emergency management organisational processes (see Figure 1) [6]. In summary, women reported less satisfaction with information exchange and the communication climate, and reported that they were less involved in decision-making. The data also show that women were less satisfied with the information received from other team members, particularly at periods of hand-over, and were less comfortable in speaking up and asking questions (see Figure 1)[6]. In terms of 'voice', these findings represent a potential risk to safety. If information is not shared there is a potential to lose valuable intelligence resulting in a reduced level of awareness that could impact safety. The data indicate that 'voice' is differently experienced by men and women in high consequence emergency management response teams.

Gender and culture in emergency management

Barton and Sutcliffe (2009) suggest that it may be useful to explore how action and culture reflexively determine safety. Safety is "a property of the interactions, rituals, and myths of the social structure and beliefs" of those involved (Rochlin, 1999, in Barton and Sutcliffe, 2009, p1352). Findings from the second survey are most useful here. Participants were asked to comment on the impediments to gaining an awareness of the emergency situation, which is a precursor to effective action. In responses from 151 participants, three themes are pertinent to this analysis. The most frequently reported theme was a rigid or autocratic management style, or as one (male) participant put it "a 'my way or

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4. Level of agreement on a scale of 1 to 7 with a "not applicable" option.

5. No observations were conducted in New Zealand.

6. All items in figure 1 are statistically significant at the .001 level.

Figure 1. Mean values of male and female perceptions of teamwork indicators.

the highway' sort of attitude". Another theme related to personal attributes that inhibited the sharing of information. As one (female) participant explained this was represented by a *"bravado and a lack of respect for others"*. To who the "other" category might be referring was not mentioned, though it can be deduced that is was other people not like him.

The final communication theme related to withholding information which appeared from the context, to relate to inter-agency information flows.

The findings reported are consistent with a masculinist culture as discussed earlier. Interview responses illustrate the point.

I: So what are the challenges?

R: People will always be people and I don't mean to be sexist but you know, boys will be boys and the testosterone gets flowing and boys are very competitive or want to prove a point … and there's always you know, the tribal instinct coming out in all of us [being stand-offish], we're only being human. (male Incident Controller)

This comment is somewhat contradictory. On the one hand there is an espoused resistance to masculinist cultures of "testosterone" but on the other hand there is an attempt to normalise and indeed reproduce and naturalise a culture of masculinity (Pacholok, 2007). In another comment, from an urban context, the interviewee discussed the impact of what he called the "command and control type attitude" and its negative impact on communication and co-operation.

R: You can see it all the time. An effective officer builds a really quick relationship with their counterpart and explains in terms they can understand and creates a rapport with them and things work. Other people adopt this really command and control type attitude that "you can't come in here (be)cause this area is mine" and it just sets this chain of interpersonal conflict that puts everyone at risk. (male, Urban Commander)

In these two interview extracts men discuss how they observe their counterparts acting within a masculinist culture. It is suggested that interpersonal conflict puts people at risk because it is likely to take the focus away from managing the event and to inhibit sharing of information.

Gender and leadership identity

Goffman (1959) regarded behaviour in everyday life as a performance, with many similarities to theatrical performances. In Goffman's terms, the main objective is to sustain a particular definition of the situation, that is, to behave in a certain way that makes an implicit statement about what is real and important in the interaction.

A 'command and control' type of social identity is one where the recipient conveys an aura of being calm and establishes a projection of what that person sees as important, which is that they are 'in control'. While establishing control is clearly part of a leader's responsibilities, it is important that it not be conflated (merged) with a style of communication that does not actively encourage input, or invite the contribution of diverse perspectives or the voicing of concerns. It is unfortunate that this style of leadership continues to be promulgated within the broader emergency services literature (see for example Murphy and Dunn, 2012).

Social interactions and cultural practices such as those associated with masculinity shape the social identities of all those engaged in high-risk communication, both male and female. This can reinforce silence both for the leader as well as for team members. In part this is because the 'command and control' type attitude can limit contrary expressions of concern or disagreements and also encourage such leaders to display bravado and over confidence. Under these circumstances neither men nor women are likely to share what they know if this is at odds with a prevailing leadership view, or to voice contrary concerns potentially relating to life and safety decisions. As the survey results suggest this has a greater impact on women who report less satisfaction with the level of openness in the communication climate of incident management teams.

Culture, gender and managing emotion

Another aspect of interest is the way in which men and women experience emotion within high-consequence work and its potential implications for team communication and action. Lois (2001) found that men and women manage emotions differently when engaged in high-risk rescue missions. According to Lois (2001), women interpreted emotions arising from adrenalin as fear, whereas men interpreted this as urgency. This is potentially significant when emergency responders are employed in a socio-cultural context where social pressure is high to 'get the job done' (Barton and Sutcliffe, 2009). In Australia, this relates to a 'can do' cultural norm. The urgency to act can lead to what Barton and Sutcliffe (2009) term "dysfunctional momentum". They suggest that momentum in action, in and of itself, merely implies a lack of interruption in the tasks at hand. However, when individuals or teams continue to engage in a course of *failing* action, (i.e., action leading to undesired or incomplete ends), then this becomes dysfunctional. One of the keys to overcoming dysfunctional momentum is speaking up. This is because speaking up acts as a reminder to stop and think about the bigger picture and to test assumptions to recalibrate planning and action. The proposed plan and the current action may be appropriate to the demands of the event. However acting with "dysfunctional momentum" represents considerable risk.

Two critical social processes are important in enabling dysfunctional momentum to be overcome. The first is giving voice to concerns and the second is the way in which leaders actively seek alternative perspectives from followers. These communication practices appear to stimulate interruptions and to reorient the actors involved.

New strategies

Changes in training to improve the use of all resources and personnel engaged in emergency management teams is required. Training needs to include the impact of human factors on decision-making and to engage participants in critically reflecting on the cultural reasons within emergency services that may inhibit

men and women from speaking up. This training needs to raise the gendered nature of team communications and emergency management culture. It is interesting to note that most literature aimed at enhancing team communication in safety critical industries is silent on gendered communications (see for example Flin, *et al.,* 2008; Cannon-Bowers and Salas, 2000).

In addition there are strategies that can be employed to support men and women in contesting the negative aspects of the masculinist culture. Training and professional development programs for leaders can identify practices that shut down communication and provide feedback in simulation and through mentoring strategies that open up communication and proactively (and efficiently) seek countervailing views to test assumptions. Team member training programs (e.g., crew resource management and "non-technical skills" training – see for example Flin, *et al.,* 2008) can also be systematically embedded in incident management team training for leaders and followers. Followers also need to recognise their responsibility in leaving masculinist cultural practices uncontested. Doing so tacitly supports and enables this hegemonic view.

Women also have a key role to play. Through their networking and knowledge exchange they can provide opportunities to frame and shape the kinds of communicative practices that are productive. By working with others using communication approaches more satisfying and effective for them, their actions can shape and change incident management teamwork culture for the better. The message here is to not settle for what is, but to actively shape interactions that might bring about the information exchange that is necessary.

Finally, organisational leaders have a role to play in supporting women to move into operational and leadership positions. As indicated in the demographic data, time is on their side. The relational understanding and engagement women may bring to emergency management leadership positions is likely to change the existing command and control culture and teamwork communication and co-operation.

Conclusion

This paper addresses three research questions. In relation to the first, there were differences reported in the experiences of men and women working in incident management teams. The findings indicate that women report less satisfaction with information sharing within their teams and are less satisfied with the information they are given at work-shift changeovers. Women also reported feeling less comfortable with speaking up and less engaged in decision-making. This has implications for incident management team leaders (e.g., incident controllers) and functional unit leaders (e.g., planning officers) in an operational response because it reveals that the voices of women and the perspectives that they may contribute are not taken into account.

The second research question examined the role of culture and its implications for the results reported

Image: Christine Owen

An incident management team briefing.

in question one. The findings suggest that there are particular cultural practices associated with masculinity that work to shut down communication and contribute to the marginalisation of women's voices.

The final research question examined the possibilities and constraints and suggested some strategies for the future. These included opening up how those in leadership positions, as well as followers, tacitly contribute to the existing hegemony. Men and women, leaders and followers have a role to play in contesting and changing teamwork culture. In addition there is a particular role for those in organisational leadership positions. There is a need for strategic human resource planning to move women into positions of operational emergency response and leadership.

There are many research implications for these findings. At present we do not know whether women will have different approaches than men. It will be important in the future to examine the potential differential management and leadership strategies women might bring to emergency management leadership. Another area for future research relates to the impact women might play in inter-agency coordination. Inter-agency co-ordination is increasingly important as organisations and systems become more interdependent. There is reason to suggest that women's ways of exercising leadership is likely to significantly contribute to the effectiveness of emergency management performance (Enarson and Morrow, 1998; Wilson, 1999). Further insights gained from the gendered nature of teamwork

communication and emergency services culture has potential to significantly increase the effectiveness of emergency management performance at a time when it is most critical.

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