

# **The role of collective efficacy/confidence and its importance in Incident Management Teams' (IMTs) work activity: Preliminary findings of a PhD.**

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## **Abstract**

There is anecdotal evidence that having high collective efficacy/confidence is important in fire emergency management. Collective efficacy/confidence is about team members' belief that they can successfully organise, as a team, and execute the courses of action required to accomplish given goals. Research indicates that positive affect (i.e. emotions) and having a high sense of collective efficacy/confidence enhances problem solving, decision making and a variety of performance-relevant outcomes including judgements, creativity, helping behaviour and risk taking. Nevertheless there are a number of contextual factors that may influence the relationships between efficacy and performance such as leadership, social climate, social persuasion and team characteristics.

The majority of research, however, that has investigated the linkages between emotions and performance and collective efficacy and performance has not been conducted in high reliability environments such as fire emergency management. Team dynamics within such unpredictable and dynamic environments are more complex than those studied. Therefore, in order to examine these constructs and make a considerable contribution to team functioning and developmental work practices within fire management, research must be undertaken in natural conditions, that is, the workplace. As my PhD research is work in progress, this paper will draw on the preliminary findings of participants' experiences of what enables and constrains collective efficacy/confidence in incident management teams' work activity.

## **Background**

There are a number of challenges faced by those who work in high reliability organisations (HRO) such as Incident Management Teams (IMTs). Much of the work involves risky work, has high activity/accountability due to task complexity<sup>1</sup> and, is cognitively demanding.<sup>2</sup> Although people who work in IMTs enjoy challenges and juggling tensions within the system,<sup>3</sup> the effects of ill-being (e.g. fatigue, stress and burnout) are also increasing.<sup>4 5 6</sup>

The aim of my PhD is to investigate the ways in which people who work in fire and emergency management experience workplace well-being. My study will address the participants' perception of:

- Experiences of working in environments that are complex and demanding and the implications on collective efficacy and workplace well-being;
- The kinds of communicative practices that enable or constrain collective work activity, collective efficacy and workplace well-being;
- What elements of workplace design (e.g. artefacts, rules division of labour) that assist or impedes collective efficacy and workplace well-being;
- The kinds of collaborative or systemic strategies that assist in enhancing workplace well-being.

The data has been collected from people who are engaged in IMTs located in Victoria, Tasmania, Queensland and New South Wales.

The majority of researchers who examine workplace well-being tend to look at elements such as stress, job burnout and fatigue. My view is that these researchers are actually examining ill-being. I define workplace well-being as people having a sense of coherence and satisfaction in the workplace. This is in regard to elements of self that are involved in work activity (e.g. self efficacy, affect,

cognition, behaviour and learning) and elements of self that are involved in collective work activity (e.g. collective efficacy, teamwork and collective learning). My argument is workplace well-being is more than an individual's psychological state, or a balance of equilibrium. Workplace well-being is collective in the sense that it involves more than one person carrying out actions with others towards a collective outcome. This is conducted under the rules and division of labour according to the workplace context.

There is a link between workplace well-being and collective efficacy because collective efficacy can mediate and balance the internal and external challenges people face to enable enhanced teamwork and performance relevant-outcomes. This notion of internal and external challenges is similar to "cognitive compromise" which happens when people have conflicting internal and external goals (see Marc & Rogalski forthcoming).

Collective efficacy had been defined in several different ways and depending on the researcher's theoretical perspective; several different terms have been given to it. For example, 'a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainment'<sup>8</sup> (p. 447). Though self-and collective-efficacy are distinct constructs, they are also interrelated. This is because when individuals make judgements about their own self efficacy they also take into account the group processes that enable and constrain their efforts<sup>9</sup>. Collective efficacy by definition represents individual's collective confidence toward their team.<sup>10</sup>

This paper will discuss the construct collective efficacy that can be used as a mechanism to assist in balancing the internal and external tensions in order to improve developmental work activity and its relationship to the collective self therefore, workplace well-being.

## **Literature Review**

### **To what degree does collective efficacy influence performance?**

Tasa and Whyte's (2005) experimental study that explored the relationship between collective efficacy and aspects of analytic problem solving in the context of group decision making found that beyond influencing task motivation, collective efficacy influences the ways that important group choices are made. Both Gully, Incalcaterra et al (2002) and Schmidt and Schmidt (2006) found that collective efficacy has a stronger relationship with performance than team cohesion. Moreover, Gully, Incalcaterra et al (2002) also suggest that the strength of the relationship between team efficacy and performance is strongly affected by team context. They contend that when the task and context encourage coordination, communication, and cooperation among members collective efficacy will be enhanced. Team resources, organisational barriers, team empowerment and team life span and leadership may also moderate relationships with performance.

Behaviour is influenced through positive and negative evaluations of one's self efficacy which in turn determines people's willingness and perseverance to execute and maintain personal effort. The level of arousal, anxiety, excitement or stress adds to individual's perceptions of self capability or incompetence. Self doubt can easily override the best skills and this can have a cascading effect within the team. It could be argued that, people who work in IMTs are especially susceptible to the influence of emotions because the work they do can potentially lead to unexpected consequences.

Fisher and Noble's (2004) study based on real-time experience investigated the relationship between positive affect and productivity in everyday work life. The sample group consisted of 121 participants who worked in such areas as child care, hairdressing, sales, retail, maintenance, office, nursing, accountancy, banking, counselling. In their study participants wore watches for a period of two weeks and when prompted by the watch alarms reported their emotional states and productivity at random times during their working day. Results demonstrated that tasks skill and interest in the effort all contribute to positive emotional states, but that these effects are mediated by performance and performance is mediated by collective efficacy.<sup>12 13</sup>

Totterdell et al (1998) showed in two studies (with community nurses and accountants) that people's moods are influenced by the collective mood of their co-workers. Moreover, for the nurses this result was not dependent on common daily hassles, but was for commitment to teams. Barasade (2000) examined group emotional contagion on the transfer of mood among people in the group and its influence on workgroup dynamics. Emotional contagion is a process where team members can influence the emotions or behaviour of other team members through conscious or unconscious stimulation of emotional states and behavioural attitudes. The study revealed that emotional states influenced people's moods in the group and more importantly group dynamics and life. Bartel and Saaverdra's (2000) study found that mood increased with task and social interdependence, membership stability, and mood regulation.

### **Leadership, emotions and performance**

Mc-Coll, Kennedy and Anderson (2002) found that leadership style has had a substantial impact on feelings of frustration and on feelings of optimism. They also found that feelings of frustration and optimism had substantial influences on performance. Pirola-Merlo et al (2002) examined the impact of leadership on affective group tone (as measured by team climate) and performance in research and development teams. Analysis revealed that leadership had a strong influence on team climate which in turn is strongly influenced team performance. The results of both these studies demonstrate that leaders who effectively manage their group members and emotional processes can have a large influence on performance.

Leadership style amongst a team can influence the extent to which a team member feels part of the team or not.<sup>20</sup> When collective identity is dominant, team members will be concerned more about the benefits of the team rather than the individuals. When a team has more accountability and trust, the team will have enhanced communication and coordination, be reflective and develop new thinking. To develop trust and accountability, it is important for team members to feel comfortable in dealing with differences and be engaged in team learning (e.g. feedback).<sup>9</sup> Similarly, a cross sectional survey found that team members need to feel comfortable in discussing errors in order to learn from them and to be able to question assumptions and current work practice.<sup>21</sup> It is vital that an open and frank climate is set by leaders so that team members can develop and refine knowledge, skills, attitudes and expectations.<sup>22</sup> Creating an open team climate that encourages positive social persuasion that will enhance collective efficacy is of utmost importance.

### **The Challenge for IMTs**

Working in a fire and emergency management environment is physically and cognitively demanding. The environment in which people work is unpredictable and complex and at times has time pressures where there is a sense of urgency. Within this environment the focus is also on reliability and safety because an error can potentially lead to unacceptable consequences. It is important, therefore, to create an environment that is conducive to collective efficacy because collective efficacy mediates collective decision making<sup>11</sup> and enhances teamwork.<sup>13</sup>

Unlike people who work together on a daily basis, people who work in IMTs work together on a minimal basis (e.g. fire season). Therefore, they do not have the social interdependence and team membership stability to the degree to which those who work together regularly do. Moreover, IMTs usually consist of people who work for different agencies, and at times, there are influences of cultural differences. It is important, therefore, for agencies and those who work in IMTs to create an environment that enables familiarity.

IMTs rely heavily on their Incident Controllers and functional area (i.e. planning, operations, logistics) leaders to continually develop and promote a shared understanding of the situation and problems that arise. It is important, therefore, to have leadership that arouses strong emotions in their team members by defining the vision which unites and captivates the team because affective states (emotions and mood) affect people's perceptions of their capabilities.

## **Methodology and analysis**

The methodological tool used for data collection were in-depth interviews. Data was collected from 40 interviews with people who work in IMTs across 7 different agencies in 4 states. The interviews were conducted either by face-to-face or over the telephone in the time frame of 45-60mins. Participants were asked to talk about their collective work experiences in IMTs. All interviews were audio recorded, transcribed and analysed manually by segmenting the data, sorting the data, organising and exploring connections. Once the initial coding was completed manually further analysis took place by importing the transcripts into NVIVO which is a qualitative analysis program. 75% of the transcripts revealed the theme collective efficacy.

## **Findings**

This section will discuss preliminary findings of my PhD. There are two main questions that relate to collective efficacy that will be addressed separately. These questions are:

- 1 What are some of the contextual variables that can influence the relationship between collective efficacy and performance in fire emergency management?
- 2 What are the roles that a leader can play to establish team members' collective efficacy?

The findings are written in a narrative style using quotations from the transcripts and are presented under headings and themes that emerged from the data analysis.

### **1 What are some of the contextual variables that can influence the relationship between collective efficacy and performance in fire emergency management?**

#### *What enables collective efficacy?*

##### **Familiarity**

As mentioned previously, team life span is an important variable in collective efficacy.<sup>12</sup> Many respondents indicated that working with people previously builds collective confidence amongst team members because there is a familiarity between them. They become comfortable with each other and know their team members' strengths and weaknesses. Faith and trust is built because they know each others capabilities. The following transcripts are examples of how people see familiarity as being important.

The things that make it work well, once again, confidence...and knowing the other people. I think one of the biggest things is knowing the other people who are in the IMT and having confidence in them and understanding them and how they work [MFB01].

That's right, and that's why you actually see some of the IMTs go really, really smoothly because everyone has worked together before and they have that faith and trust in people and know that they're capable. It makes your day when you walk in and you see familiar faces because you know you've worked with them before, you know they can do the job [DSE01].

It is clear that familiarity is an enabling factor to collective efficacy and collective efficacy and performance have a strong relationship.<sup>12</sup> However, familiarity alone is not sufficient. Collective efficacy is important because it's about a team member's belief in his or her team's capabilities to accomplish goals.<sup>8</sup> One respondent shares how this makes her feel.

One of the things that I've always maintained, when people have asked me about what you enjoy, well part of it is that whole teamwork thing, that sense of achievement that you get out of that. It's really nice to see things work and how it gels and how it all comes together [PARKS 02].

##### **Emotional cascade**

The data indicates that emotions, collective efficacy and performance are linked<sup>14 12 13</sup> IMT members suggested that they are influenced by the collective mood of their team<sup>15</sup> and more importantly group dynamics.<sup>16</sup> Emotional awareness and emotional management abilities have important consequences

for team performance, as these abilities help maintain effective and appropriate relationships with team members. Many respondents indicated that, if they are aware of each other then they can support and encourage each other. In turn, the enhanced relationships that emerge contribute to better decision making in teams.<sup>11</sup> Respondents were asked: What is it that makes some teams work better than others? This is what two respondents had to say:

I think it has to be the way that they function together. They might be good at what they do, but to be able to mesh together and work as a team I think that's probably the key to it. If you feel comfortable working with those people and likewise. Certainly it's a confidence thing, and also it's an enjoyable experience [PARKS02].

I think there's always a sense of when things are going well and that has a snowballing effect. If some people get a sense that they are doing a good job and that sense of team that actually inspires them to go on to bigger and better things...[MFB14]

In this study the majority of respondents focussed on the positive elements that enable collective efficacy. Subjective well-being is generally positive because people feel it important to maintain a positive attitude towards well-being. Nevertheless, it is important to note that whilst the majority of respondents shared enabling experiences, there were a number of respondents that spoke of constraints.

### *What constrains collective efficacy?*

#### **Unfamiliarity**

People who work in IMTs do not always work with the same team. This is because firstly, the nature of the work is seasonal (e.g. bushfires, cyclones). Secondly, team members are pooled from different agencies. Thirdly, a number of team members are volunteers. A majority of respondents indicated how they would prefer to have designated teams because at times it can be difficult to function optimally when you work with people you do not know. The following transcript provides an example of this.

New team makes it very difficult. You don't know peoples capabilities and you give someone a job they can't do or you might be underutilising someone and that can have almost as bad effect. They can become almost counterproductive if you're not using them to the best of their ability [TFS02]

This next transcript outlines how unfamiliarity coupled with negative emotional cascade (i.e. being under stress), can impede on team dynamics,<sup>16 17</sup> and in this incident had fatal consequences.

It's typical to when you bring agencies together and you bring them together under emergency situations, you're taking a fairly high risk because every organisation has its own culture... you do worry when you work with say the agencies who operate completely different and, if you get stressed, does that break down and do we end up with .....deaths because of A not knowing how to work with B, or when the stress hits messages didn't get through or whatever. So it is a concern and you can satisfy a lot of that process saying, "Don't forget to do this", but, as you know, under stress processes often break down. It's a risk, but you've just got to keep at it. The benefit for Victoria is fantastic. We can work together, but you've got to have a lot of trust and a lot of reassurance that we will work together from top to bottom and won't break down [DSE 05].

It is important that IMT members operate in an environment that is conducive to collective efficacy because collective efficacy mediates collective decision making<sup>11</sup> and performance.<sup>13</sup>

**2 What are the roles that a leader can play to establish team members' collective efficacy?**  
IMT personnel shared their experiences about how leadership has a strong influence on team climate.<sup>18</sup>  
<sup>19</sup>They all agreed that effective leadership promotes a positive emotional cascade because the team climate will be "open". Respondents talked about how when the climate is open they feel comfortable

to discuss task difficulties with their leaders, and other team members. IMT members indicated this enables them to be open to voicing their opinions and alternative strategies should the need arise. In turn they feel valued and part of the team which enhances their collective efficacy.<sup>20</sup> It is also clear that leadership has a substantial influence on team performance such as communication, coordination and enables team members to develop new thinking.<sup>9</sup> The data in this study indicates that leadership is the most prominent contextual variable that mediates collective efficacy. Respondents indicated the majority of leaders were efficient and competent. However, it is those leaders that have an understanding how to motivate and captivate, create an open climate and provide constructive feedback that have effective leadership skills. The following transcripts provide examples of this:

➤ *Motivate and captivate by defining a vision*

You've got to have a leader and you've got to have direction and you've got to have somebody that takes the final say, somebody that's going to say no or yes. It's like a ship without a helmsman. It's going to go wherever the breeze pushes it but if you've got a good leader that's giving good, concise direction and objectives then people can work to it otherwise you're not going to get anywhere. Leadership makes you lift and keeps your focus [Forestry 04]

➤ *Open social climate*

[name of colleague] was the IC for a while at [name of fire], he was a totally supporting Incident Controller and open to go and talk to him. He was the guy who throughout the day would ask you how are you are going and what you needed and all that sort of stuff. So that was really good in terms of supportive behaviour....you don't feel that you are working in isolation. You have just got someone to touch base with you every half hour or an hour...which is good [PARKS 04]

➤ *Social persuasion/feedback*

...regular meetings that we have when we all come together to discuss at what stage we are at, you know in your mind what your timeline should be and what you should have done by certain times. Not only off the fire ground but also on the fire ground, because that has a huge impact at how the incident is going to run...just regular feedback, just positive feedback, it just enhances the whole progress and you feel secure that the decisions that you have made or have been made for that particular day or that incident, they are all running smoothly. It's that sense of achievement [PARKS 05]

## **Conclusion**

People who work in IMTs are exposed to physically and cognitively demanding work. The environment in which they work is unpredictable, complex and at times has time pressures where there is a sense of urgency. In IMT work activity an error can potentially lead to unacceptable consequences. My research argues that workplace well-being is of utmost importance because in such environments people are placed under enormous amounts of demand. Specifically, this paper has discussed how collective efficacy is a mediator between emotions and performance-relevant outcomes such as collective decision making, helping behaviour and judgements. The preliminary findings presented within discussed the contextual variables that influence collective efficacy. They are; familiarity/unfamiliarity amongst team members, emotional cascade, and leadership which was found to be the most predominant contextual variable. The challenge for IMTs is to create an environment that enables familiarity, and to educate leaders to encourage an open team climate so that IMTs are conducive to collective efficacy. This is vital because collective efficacy mediates collective decision making and enhances teamwork.

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