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Decision-Making, Leading and Responding to Stress in Critical Incidents

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The aim of this paper is to summarise the key themes of the recent student research from the Centre for Critical Incident Research (CCIR) (www.liv.ac.uk/psychology/ccir). The research was presented as a series of papers at the Division of Forensic Psychology Annual Conference. The key themes were the development of a proposed taxonomy of investigative decisions, identification of leadership skills, the emotional impact of criminal investigations, and the influence of stress moderators on post-incident reactions. All of these were considered and formulated within the context of critical incidents.

According to Flin and Arbuthnot (2002), a critical incident is characterised by heavy time pressure, incomplete information, and stressful ever-changing circumstances. To manage such an incident, one must work within a multi-organisational framework in which the needs of the police officers, community, and other agencies involved are considered. Errors can result in catastrophic consequences, including major loss of life. Because of these high stakes, managers and other personnel are understandably reluctant to openly discuss perceived operational failings or professional and emotional vulnerabilities.

In order to encourage the candid and transparent discussion of such incidents from somewhat reluctant respondents, we have worked with two systems developed by our practitioner director, Professor Jonathan Crego. The first is an electronic focus group called '10,000 Volts', which is used to debrief individuals after major incidents (and is entirely anonymous). The second is a high-fidelity, immersive simulation system known as 'HYDRA', where individuals engage in real-time critical operations (including kidnaps, death in custody and firearms incidents). Although both systems were developed for police training, we were fortunate to have been given the opportunity to have access to them to assist with our research. The data from these systems are used alongside more traditional methods (quasi-experimental studies, questionnaires and tactical decision games), and we have found both systems especially productive in what we see as an important initial, descriptive phase - namely, capturing and identifying the 'landscape' of critical incident management.

Speaking to officers candidly about their experiences, using observational studies of immersive simulations and exploring archival material (such as public reviews) have helped to identify the following important issues: factors that impede or assist effective decision-making, factors that encourage decision inertia (or decision 'paralysis'), qualities of effective senior officers in leading teams during critical incidents, the impact of emotions on decision-making, the relationship between stressors and stress moderators, and the influence of complexity, time pressure, order effects and ambiguity on decision-making.

Police decision-making

Previous research has established that decision-makers are not entirely rational and are affected by experiences and biases. Although traditional decision theory recognised that these biases and heuristics exist, the focus was still very much on the individual decision-maker in the here and now, rather than an exploration of the different social contexts in which human beings exist, and how these may affect ongoing and cumulative decision-making processes. Important though it is to understand cognitive processes, it is important to understand how context influences the way decisions are made. Mullins and Alison (2006) considered the following levels at which decisions must be understood:

- Decision environment (including intra-organisational features such as accountability and hierarchy; and external pressures such as publicity, type, stage and area of investigation);
- The individual decision-maker (including the ultimate accountability of the Senior Investigating Officer (SIO) and whether he or she has a participatory or autocratic role);
- Decision bases (the material foundations of particular decisions, from hunches to evidence).

The model is based on the attendant psychological and sociological literature, as well as examples from a variety of archival resources (notably public reviews), and is informed by work with focus groups of SIOs. We consider the psychological impact of time pressure, uncertainty, responsibility, reversibility and control, and evaluate how these may be more or less relevant at various stages of an enquiry. In drawing upon these various levels of complexity that influence decisions, we argue that both naturalistic and traditional decision-making approaches are informative within the context of critical incidents. Further, we suggest that a synthesis of these historically 'at odds' paradigms is likely to prove most fruitful in furthering our understanding of the role of the SIO in a murder investigation.

Traditional decision-making (TDM) models that focus exclusively on rationality neglect to consider the influence of emotions on decision-making, and Roocroft and Alison's (2006) presentation went some way to address this omission. Mellers, Schwartz and Cooke (1998) offer a substantial review of the factors that can affect decision-making and the interested reader may find it a useful source for further study. Isen (1993, cited in Mellers et al., 1998) established that positive emotions increase creative problem-solving. Estrada, Isen and Young (1994) found that decision-makers with positive emotions integrate information more efficiently than controls. On the other hand, Luce, Bettman and Payne (1997) found that in some situations, negative emotions can lead to the faster use of available information, resulting in increased choice accuracy. However, increased accuracy is only obtained in situations where the task is easy. If the task is difficult, accuracy is decreased when the decision-maker experiences negative emotions. Critical incidents may be intuitively characterised as situations where the task is difficult. However, experts' perceptions of the task need to be considered; thus in such instances experience may moderate the effect.

Further, stress can impair cognitive processing. Research on attention shows a decline in cognitive performance even when simple dual tasks are undertaken (Pashler & Johnston, 1998) and critical incident management entails many simultaneous complex tasks. Stress can further narrow attention (Kahneman, 1973) and, more generally, Fiedler (1988, cited in Mellers et al., 1998) found that any negative affect narrows attention and can result in a failure to search for new alternatives. Certainly, stress is an important area of research for professionals involved in critical incidents, as repeated exposure to stressful situations puts these workers at a greater risk of suffering stress responses or even being diagnosed with post-traumatic stress disorder (Everly & Mitchell, 1992, cited in Kowalski, 1995). Doran and Alison's (2006) presentation argued that greater emphasis is needed on examining the relationship between stressors and stress moderators. Patterson (2003) found that seeking social support helped to buffer the effects of work-related stress among police officers, but worryingly, Pogrebin and Poole (1991) found that US police officers regard the discussion of emotions and stress responses as taboo because they may be viewed as a personal inadequacy; it is therefore rarely discussed. Doran and Alison's (2006) examination of murder and siege incidents strongly reinforced the notion of social support having a buffering effect on stress reactions. This is an example of how organisational norms can affect individuals and, in a reciprocal fashion, how negative emotions that are unresolved may affect future decision-making.

Self-identity and social categorisation

One paradigm that we have found quite useful in pulling together these seemingly disparate strands is social identity (Tajfel & Turner, 1986) and self-categorisation (Turner et al., 1987) theories. These offer an explanation for the influence of group norms on behavioural outcomes. This relates to the individual decision-maker; thus, the stronger the identification with the organisation, the more the decisions will be influenced by the prevailing organisational culture. Haslam, Postmes and Ellemers (2003) identify three factors that are likely to strengthen an individual's organisational identity:

- The length of time he or she has worked there;
- Whether the organisation is in competition with another organisation;
- If they feel proud of the organisation.

In Crego and Alison's (2004) electronic focus group session, the authors identified public accountability as one of the most significant issues in managing critical incidents (i.e., how they would be perceived by the community, victims and the media). Delegates also found it one of the most difficult aspects to manage. It is easy to see the potential for long-term damage to decision-making skills in an organisation that has experienced public blaming and shaming. This is why it is so critical that leadership and management at the most senior levels needs to be closely considered alongside decision-making.

According to the Home Office (2001), there is a growing need for enhanced training, leadership and professionalism at all levels of the police service. By 2007, for example, only 20 per cent of English and Welsh officers will have more than five years of experience at managing critical incident enquiries (Police Skills and Standards Organisation, 2002). Various initiatives have recently been instigated to help improve police leadership in the UK, such as the creation of a Police Leadership Development Board in 2001, whose role is to facilitate the recruitment and promotion of individuals who have the potential to reach senior positions.

In the past, the management practices of police departments have tended to be evaluated only after a crisis or performance breakdown, when public or governmental pressures force supervisory policies to be re-examined (Crego & Alison, 2005; Hansen, 1991; Murray, 2004). This reactive approach can be quite damaging for the police, as it may create unnecessary costs and disruptions, undermine public confidence in the police as an

organisation, and cause discord and stress among police officers and other officials (Hansen, 1991; Murray, 2004).

Immersive simulations

Our work at CCIR is allowing us to examine both the novices who will in the near future become SIOs, as well as more experienced personnel. For instance, it is now possible for us to examine officers' behaviours during videotaped training simulations. A particularly valuable tool in this respect is the HYDRA immersive simulation system, where each team manages an evolving critical incident simultaneously, with all participants taking turns in the role of SIO for their team. Incidents unfold in real time, continually moving between 'slow burn' (e.g., analysis of witness statements, examination of forensic evidence) and 'fast burn' (e.g., highly volatile family liaison, press involvement) situations (Crego, 2002). Information becomes available to teams in increments:

- As the result of team requests for knowledge;
- As the result of team decisions (the incident may therefore unfold differently for each team as a direct result of their interventions);
- As a general function of the unfolding enquiry.

The experts in the control room facilitate these processes, by acting as a central repository for information (for example, providing the teams with statements, photographs, exhibits and intelligence, as well as video and multi-media cues) (Crego, 2002).

With little up-to-date research on the topic of police leadership, HYDRA is providing us with an opportunity to examine those qualities that are representative of effective leadership. Some early hypotheses have come from Whitfield and Alison's (2006) survey studies in which they highlighted the many cognitive and interpersonal skills required by police critical incident managers, from making good decisions that will drive an inquiry forward, through managing the team and all the roles and responsibilities of each member, to managing relationships with communities and the media. A key feature does appear to be the extent to which followers identify with the core principles of the leader (SIO). Now we are beginning to seek evidence for the effectiveness of these strategies in the immersive learning environment.

In conclusion, it is clear that we are at the earliest stages of exploring what makes for effective decisions and for effective leaders. However, our privileged access to the practitioners themselves, as well as their willingness to engage in an evidence-led approach to developing best practice, has helped identify the complexity of the context within which

decisions are made and people are led. For the interested reader, these two central issues (leadership and decision-making) will be fully discussed in Alison and Crego's (2006) forthcoming book *The Psychology of Critical Incident Management*.

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