International Journal of Emergency Mental Health, Vol. 10, No. 2, pp. 95-108 © 2008 Chevron Publishing ISSN 1522-4821

Stress Shield: A Model of Police Resiliency

Douglas Paton
University of Tasmania

John M. Violanti
State University of New York at Buffalo

Peter Johnston
Massey University

Karena J. Burke
University of Tasmania

Joanna Clarke
HM Prison Service

Denise Keenan
Cognition Associates

Abstract: *This paper discusses the development of a new model of police officer resiliency. Following Antonovsky's definition of resilience, the model is built on the view that the resilience of a person or group reflects the extent to which they can call upon their psychological and physical resources and competencies in ways that allow them to render challenging events coherent, manageable, and meaningful. The model posits that a police officer's capacity to render challenging experiences meaningful, coherent, and manageable reflects the interaction of person, team, and organizational factors. The paper argues that a model that encompasses these factors can be developed using theories drawn from the literatures of occupational health and empowerment. The development of the model is also informed by the need to ensure that it can accommodate the importance of learning from past experiences to build resilience in ways that increase officers' capacity to adapt to future risk and uncertainty. By building on recent empirical research, this paper outlines a new multi-level model of resilience and adaptive capacity. The Stress Shield model of resilience integrates person, team and organizational factors to provide a proactive framework for developing and sustaining police officer resilience. [International Journal of Emergency Mental Health, 2008, 10(2), pp. 95-108].*

Key words:police, stress, trauma, resiliency model

Police officers are regularly exposed to critical incidents. Although this work traditionally is viewed as a precursor to the development of acute and chronic posttraumatic stress reactions, growing evidence for it to be associated with adaptive and positive (e.g., posttraumatic growth, enhanced sense of professional efficacy) outcomes (Aldwin, Levenson, & Spiro, 1994; Armeli, Gunthert, & Cohen, 2001; Paton, Violanti, & Smith, 2003) calls for a reappraisal of this aspect of police work. While not denying the potential for pathological outcomes, growing evidence for resilient (adaptive and growth) outcomes introduces the need to identify predictors of resilience.

First, it is pertinent to consider what is meant by "resiliency"? The term resilience is often used to imply an ability

Douglas Paton and Karena J. Burke, School of Psychology, University of Tasmania, Launceston, Tasmania, Australia; John M. Violanti, Department of Social and Preventative Medicine, School of Medical and Biomedical Sciences, State University of New York at Buffalo, NY; Peter Johnston, School of Psychology, Massey University, Albany, New Zealand; Joanna Clarke, HM Prison Service, York, England; Denise Keenan, Cognition Associates, Adelaide, South Australia. Correspondence concerning this article should be addressed to: Douglas.Paton@utas.edu.au.

to "bounce back." Being able to bounce back is an important capability. However, because police officers are called upon repeatedly to deal with increasingly complex and threatening incidents, it is appropriate to expand the scope of this definition to include the development of one's capacity to deal with future events. Consequently, the definition adopted here embodies the notion of "adaptive capacity" (Klein, Nicholls, & Thomalla, 2003). Resiliency thus defines the capacity of agencies and officers to draw upon their own individual, collective, and institutional resources and competencies to cope with, adapt to, and develop from the demands, challenges, and changes encountered during and after a critical incident, mass emergency, or disaster.

Understanding and managing resilience involves adopting a perspective that assumes that salutary outcomes occur when individuals and groups can use their psychological and physical resources and competencies in ways that allow them to render challenging events coherent, manageable, and meaningful (Antonovsky, 1990). In emergency populations, "critical" incidents create a sense of psychological disequilibrium that represents that period when the existing interpretive frameworks or schemas that guide officers' expectations and actions have lost their capacity to organize experience in meaningful and manageable ways (Janoff-Bulman, 1992; Paton, 1994). The challenge is to identify those factors that can be developed prior to exposure that predict officers capacity to develop a schema that broaden the range of (unpredictable) experiences that officers can render coherent, meaningful, and manageable (Fredrickson, Tugade, Waugh, & Larkin, 2003; Paton, 1994, 2006). Building on recent empirical research into how protective services officers adapt to highly challenging circumstances (Burke & Paton, 2006; Johnston & Paton, 2003), in this paper we outline a new model of adaptive capacity. In constructing the Stress Shield model of resilience, it is essential that the theories used to inform its development can integrate personal, team, and organizational levels of analysis.

Integrating Officer, Team, and Organizational Factors

Although typically investigated at the level of the individual officer, this paper argues that the comprehensive understanding of resilience must integrate organizational, team, and individual perspectives, with the organizational level of analysis having greater influence in this process than has hitherto been acknowledged. This argument is based on the fact that the police organization defines the context within which officers experience and interpret critical incidents and their sequelae and within which future capabilities are nurtured or restricted (Paton, 2006). Officers respond to incidents as members of law enforcement agencies in which the organizational culture influences their thoughts and actions, representing the context in which challenging experiences (using a schema whose nature derives from patterns of interaction with colleagues, senior officers, and organizational procedures over time) are interpreted (Paton, Smith, Ramsay, & Akande, 1999; Paton, Smith, Violanti, & Eranen, 2000; Weick, & Sutcliffe, 2007). However, the organization is not the only influence. Several person- and team-level factors (e.g., coping, social support) have also been implicated as playing complementary roles in predicting resilience (Paton, 2006), and they must be included in any comprehensive model.

Modeling Resilience

The development of models of resilience faces several conceptual challenges. Although resilience is evident when officers successfully adapt to actual critical incident demands, research into resilience must be undertaken prior to such events occurring to ensure that intervention can be undertaken to arm officers with a capability to adapt before they experience critical incidents. This would not be a problem if it were possible to predict exactly what officers will be called upon to confront. However, because critical incidents are characterized by considerable diversity (e.g., mass casualty incidents, school shootings, biohazard attack), police agencies cannot predict what their officers will encounter. Consequently, any model used to guide this activity must identify the resources and competencies that facilitate the proactive development of a general capacity to adapt (i.e., render any future experience meaningful and manageable) to unpredictable circumstances.

This introduces a second conceptual problem. There is currently no measure capable of capturing the diverse ways in which police officers can experience meaningfulness and manageability in the context of their work. Until such measures are developed, what is needed is a measure that can capture the experience of coherent, meaningful, and manageable outcomes irrespective of the specific outcomes officers' experience. The construct of job satisfaction can fulfil this role.

Satisfaction and Resilience

Thomas and Tymon (1994) found a relationship between perceptions of meaning found in work tasks ("meaningfulness") and enhanced job satisfaction. Spreitzer, Kizilos, and Nason (1997) observed a positive relationship between competence ("manageability") and job satisfaction. These findings have been echoed in the critical incident literature, with finding meaning and benefit in emergency work being manifest in changes in levels of job satisfaction (Britt, Adler, & Bartone, 2001; Hart & Cooper, 2001; North et al., 2002).

Because the job satisfaction construct can capture changes in the meaningfulness and manageability facets of resilience, as well as the implications of the coexistence of positive and negative aspects of officers' experience, it represents a construct capable of acting as an indicator of officers' resilience and their future capacity to adapt to unpredictable and challenging critical incidents. Having identified a means of measuring adaptive outcomes, the next task is to identify the personal, team, and organizational level factors that influence resilience.

Organizational Characteristics, Coping, and Resilience

Hart and Cooper (2001) proposed a conceptual model of organizational health that predicts that interaction between individual and organizational factors influences the experience of salutary outcomes. Of particular relevance for the present paper was the central role that Hart and Cooper afforded organizational climate. "Organizational climate" describes officers' perceptions of how their organization functions, and these perceptions influence both their well-being and their performance within their organizational role (Hart & Cooper).

Burke and Paton (2006) tested the ability of this model to predict satisfaction in the context of emergency responders (police, fire, paramedic) experience of critical incidents. The model tested how interaction between organizational climate (measured using the Team Climate Inventory [Anderson & West, 1998]), officers' experience of organizational and operational practices prescribed by the organizational culture (measured using the Police Daily Hassles and Uplifts Scale [Hart, Wearing, & Headey, 1993]), and officers' problem-focused and emotion-focused coping styles (measured using the COPE Inventory (Carver, Scheier, & Weintraub, 1989). Job Satisfaction was measured by the Job Satisfaction Inventory (Brayfield & Rothe, 1987). The results are summarized in Figure 1.

The model accounted for 44% of the variance in job satisfaction. Organizational climate was the best single predictor of job satisfaction (Figure 1) and, by inference, represents a significant influence on officers' ability to render their critical incident experiences meaningful and manageable. The relationship between organizational climate and how officers deal with the consequences of critical incidents was evident in the influence of climate on coping (Figure 1). Organizational climate had a negative influence on emotion-focused coping, resulting in an increase in negative work experiences. Similarly, climate had a direct positive influence on problem-focused coping, resulting in an increase in positive work experiences. Organizational climate also demonstrated a direct negative influence on negative ("hassles") work experiences and a direct positive influence on positive ("uplifts") work experiences. Positive and negative work experiences made relatively equal and separate contributions to job satisfaction.

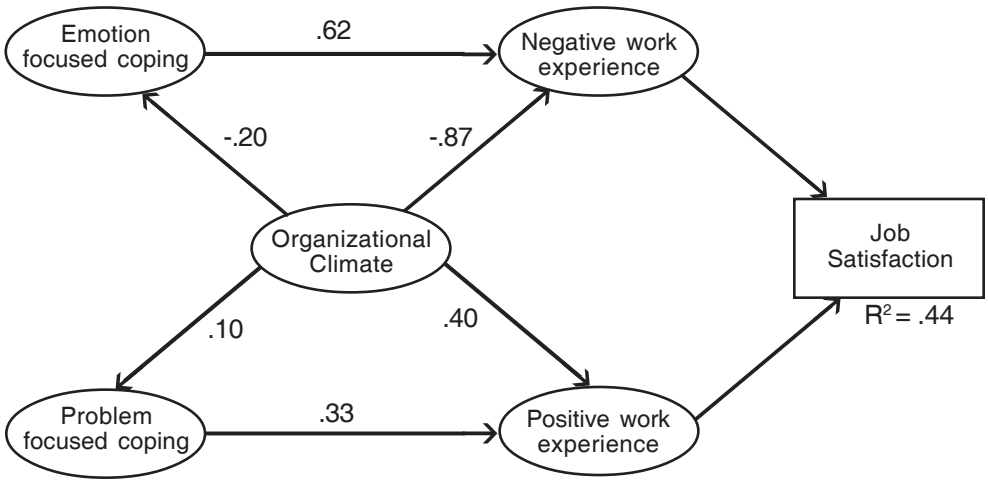
Given that satisfaction assesses perceived meaning, the culture or climate of an organization represents one source of officers' ability to impose and sustain coherence and meaning on critical incident outcomes. The important role played by organizational climate indicates that police agencies have a key role in facilitating staff adaptability and resilience.

This model (Figure 1) accounted for 44% of the variance in job satisfaction, leaving a substantial portion of the variance to be explained. Hart and Cooper (2001) argued that the inclusion of individual (e.g., personality, hardiness) and group (e.g., peer and supervisor support) constructs could help account for additional variance. There are other reasons for developing the model further.

Developing the Model

Although this model (Figure 1) provides a sound basis for the relationship between organizational culture and officer resilience, additional elements are required to account for how officers' experiences of the work environment and critical incidents are translated into schemas that contribute to or detract from the officers' capacity to learn from experience in ways that facilitate their future capacity to adapt.

Figure 1: The relationship between personal characteristics, organizational climate, work experiences and job satisfaction. Adapted from Burke and Paton (2006).



As outlined above, any theory used must meet certain criteria. First, it must encompass personal, team, and organizational levels of analysis. Secondly, it must contribute toward explaining how challenging experiences are rendered meaningful and manageable (by predicting change in satisfaction). One such construct is empowerment. In the next section, reasons why empowerment represents a construct that informs an understanding of resilience are discussed.

Empowerment

The first issue is whether a relationship between empowerment and satisfaction can be demonstrated. Several studies have demonstrated that empowerment predicts satisfaction in individuals and teams (Kirkman & Rosen, 1999; Koberg, Boss, Senjem, & Goodman, 1999). The second issue is whether empowerment theories can encapsulate the individual, team, and organizational influences in ways that positively influence the meaningfulness and manageability of experiences (captured by job satisfaction). It is to a discussion of how empowerment satisfies this criterion that this paper now turns.

Empowerment as an Enabling Process

Empowerment is a well-used construct in the management literature, usually in relation to processes such as participation and delegation (Conger & Konungo, 1988). Because delegation, as an attribute of organizational culture, can influence resilience (e.g., delegating responsibility for crisis decision making (Paton & Flin, 1999), this facet of empowerment may contribute to increasing resilience. However, it is the finding that empowerment has demonstrated strong links to motivating action under conditions of uncertainty (Conger & Konungo; Spreitzer, 1997) that renders the concept of empowerment capable of providing valuable insights into how resilience can be developed and sustained.

Motivational interpretations of empowerment derive from a theoretical perspective that argues that if people have sufficient resources (psychological, social, and physical) and the capacity to use them, they will be able to effectively confront the challenges presented by events and the environment (Conger & Konungo, 1988; Spreitzer, 1997). Empowerment theories argue that the potential to use resources to accomplish tasks derives from the relationship between the organization and the officer. Empowerment theories thus afford opportunities to develop models that integrate personal, team, and organizational factors.

Conger & Konungo (1988) conceptualize empowerment as an enabling process that facilitates the conditions necessary to effectively confront (i.e., develop meaning, competence, etc.) future challenges. Conger and Konungo argue that individual differences in meaning and competence reflect the degree to which the environment (i.e., the police organization) enables actions to occur. Empowerment thus describes a process that uses organizational strategies to remove conditions that foster powerlessness (e.g., organiza-

tional hassles) and encourage organizational practices (e.g., organizational and operational uplifts, self-efficacy information, competencies) that develop officers' learned resourcefulness (Johnston & Paton, 2003).

Thomas and Velthouse (1990) complement this position by adding that beliefs about future competence derive from the schema or interpretive framework, developed through the enabling process of empowerment, which provides meaning to officers' experiences and builds their capacity to deal with future challenges. In addition to its ability to inform an understanding of resilience directly, the notion of enabling through the development of an empowering schema means that the empowerment construct can help explain how officers' experiences of their organizational culture (e.g., the hassles and uplifts that reflect how it is enacted) and critical incidents are translated in meaningful and manageable ways (manifest as changes in levels of satisfaction; see Figure 4).

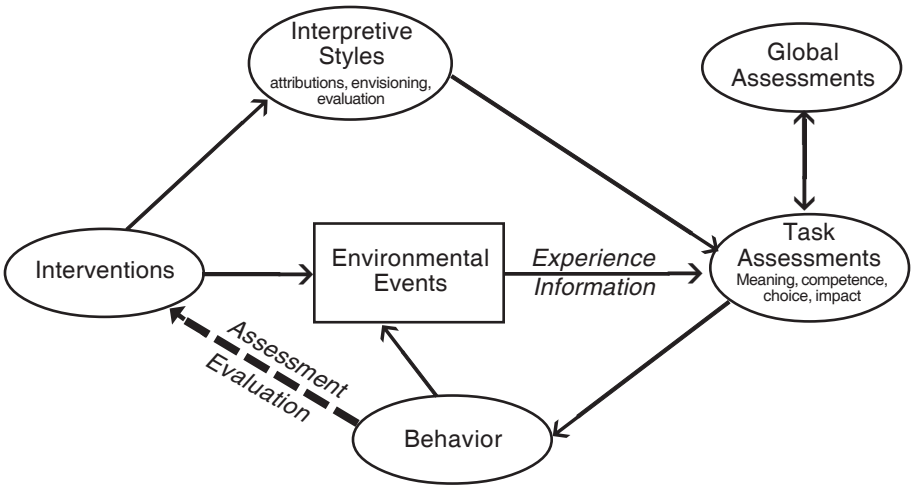
By providing a mechanism that offers an explanation for the relationship between the organizational environment and the schema that underpins future adaptive capacity, empowerment theories have considerable potential to inform an understanding of how resilience is enacted in police agencies. This capability is further bolstered by the fact that empowerment is conceptualized as an iterative process involving a cycle of environmental events, task assessments, and behavior (Figure 2). Consequently, empowerment theories can accommodate the repetitive nature of police involvement in critical incidents in ways that demonstrate how it contributes to the learning process required to maintain adaptive capacity in the changing environment of contemporary policing (Paton & Violanti, 2008).

Critical Incidents, Incident Assessment, and Behavior

Environmental events (critical incidents) provide information to officers about both the consequences of their previous task behavior and the conditions they can expect to experience in future task behavior (Conger & Konungo, 1988). In addition to it emanating from their own experiences, task information (e.g., the assessment of critical incident experiences) can also be provided by peers, subordinates, and superiors at work in the context of, for example, performance appraisals, training programs, and meetings (Figure 2).

Through each progressive cycle of event (i.e., following a challenging critical incident), assessment (of specific critical incident experiences), and feedback, officers develop, maintain, and change the operational schema they use to plan for, interpret, and respond to critical incidents. This process is depicted in Figure 2. For it to inform the development of resilience, it is necessary to identify how empowerment cycles contribute to the development of future adaptive capacity. The environmental assessment process translates into two outcomes: task assessment and global assessment.

Figure 2: The cycle of environmental events, task assessments, and behaviour. Adapted from Johnston and Paton (2003). The hashed line indicates the input into organizational learning.



According to Thomas and Velthouse (1990), officers' task assessments comprise several components. The first component, meaningfulness (or meaning), describes the degree of congruence between the tasks performed and one's values, attitudes, and behaviors. Empowered individuals feel a sense of personal significance, purpose, and commitment to their involvement in work activities (Spreitzer, 1997; Thomas & Velthouse). Meaningfulness is increased by experiencing uplifts, such as receiving recognition and being given responsibility, but is constrained by organizational hassles (e.g., "red tape") that shift the emphasis from meaningful role performance to meeting administrative expectations.

The second component, competence, is analogous to Bandura's (1977) notion of self-efficacy. Competence is fundamental to the belief of officers' in their ability to perform their operational roles successfully (Spreitzer, 1997). This outcome is comparable to the manageability component of resilience. Importantly, Bandura points out that there is a direct relationship between the level of self-efficacy (i.e., competence) and the level of effort and persistence that officers invest in facing challenging events, thus making an important contribution to officers' capacity to adapt to the unexpected.

The third component, choice, reflects the extent to which officers perceive that their behavior is self-determined (Spreitzer, 1997). A sense of choice is achieved when officers believe they are actively involved in defining how they perform their role (a prominent item when officers report uplifts) rather than just being passive recipients (as is often the case when officers describe hassles). The sense of choice is enhanced when the organization delegates responsibility for planning and task performance to officers. This facet of empowerment is comparable to the coherence component of resilience. A sense of choice is particularly important for dealing with emergent, contingent, emergency demands and for creative crisis decision-making and the development and maintenance of situational awareness when responding to critical incidents (Paton & Flin, 1999). An ability to exercise choice also facilitates learning from training and operational experiences and, in an empowering climate, facilitates others to do likewise and pass on learning.

The final component, impact, describes the degree to which officers perceive that they can influence important organizational outcomes (Spreitzer, 1997). Where choice concerns control over one's work behaviors, impact concerns the notion of personal control over organizational outcomes. Parallels can be drawn between the choice and impact elements of empowerment and perceived control, another factor that has been widely implicated in thinking on stress resilience and adaptability.

The ability to draw a direct comparison between the components of task assessment and the concepts of meaningfulness, manageability, and coherence adds weight to the argument that empowerment can encapsulate resilience in police organizations. This comparison also illustrates how hassles and uplifts can affect core empowerment processes such as meaning and choice (see Figure 4), thus affording an opportunity to see that empowerment research complements the earlier model (see Figure 1) and how their integration contributes to the development of a comprehensive model of police resilience.

Before continuing to advance this argument, there is one final form of assessment that remains to be discussed: global assessment, which further establishes empowerment as a construct that plays an important role in informing the understanding of officers' resilience and their capacity to adapt to future incidents.

Although task assessments are localized within a singular task and time period, global assessments refer to an outcome of empowerment that embodies a capacity to generalize expectancies and learning across tasks and over time. Thomas and Velthouse (1990) observed that global assessments describe a capacity to fill in gaps when faced with new and/or unfamiliar situations. This aspect of empowerment is essential for adaptive capacity in a profession where one cannot predict what he or she will be called upon to confront and thus must be able to use current experiences as a basis for preparing to deal with future risk and uncertainty.

Both global and task assessments, and thus the capacity to adapt, are influenced by officers' interpretive styles (Figure 2), with these schemas comprising separate but related components (Thomas & Velthouse, 1990). According to Thomas and Velthouse, interpretive frameworks are influenced by the work context, with management practices (intervention; see Figure 2) having an important influence on how the schemas are developed and sustained.

Empowerment Schema and Resilience

The first schema component concerns the attributions made by officers to account for success or failure. Empower-

ment is greater when officers attribute causes for failure to external (i.e., other than personal shortcomings), transient (i.e., likely to change over time), and specific (e.g., limited to a specific day or event) factors.

The role of this schema component is consistent with findings in the literature of critical incident stress. For example, Paton and Stephens (1996) discuss how an officer's frequent experience of successful outcomes under normal circumstances can lead to the development of the helper stereotype. The schema of the helper stereotype fuels officers' expectations that they will always be resourceful, in control, and able to put things right. The suddenness, scale, and complexity of mass emergencies and disasters make it inevitable that officers will have to deal with failure at some point or with not being able to perform at their expected level (Paton, 1994). Under these circumstances, the helper stereotype results in officers' internalizing failure (Raphael, 1986) rather than, more correctly, attributing a given problem to environmental complexity. Similarly, organizational hassles such as reporting practices that supersede concern for officers' well-being or that project blame on officers increase the likelihood that officers will perceive problems as emanating from internal sources (MacLeod & Paton, 1999). In contrast, feedback processes that differentiate personal and environmental influences on outcomes contribute to the development of attributional schemas that sustain adaptive capacity (MacLeod & Paton).

A second schema component, envisioning, refers to how officers anticipate future events and outcomes. It influences the quality of the attributional processes brought to bear on critical incident experiences. Officers who anticipate positive rather than negative outcomes experience stronger task and global assessments and, thus, empowerment. With regard to response problems, the existence of a learning culture in police agencies that interprets problems as catalysts for future development and not as failure (Paton, 2006; Paton & Stephens, 1996) will increase positive expectations regarding performance and well-being.

The final schema component, evaluation, refers to the standards by which one evaluates success or failure. Thomas and Velthouse (1990) argue that individuals who adopt less absolutist and more realistic standards experience greater empowerment. This observation is reinforced by findings in the critical incident literature. Officers who have realistic performance expectations, and who acknowledge environmental limitations on their outcomes, are better able to adapt to highly threatening circumstances (Paton, 1994; Raphael, 1986).

In addition to being able to predict satisfaction and thus inform understanding of how meaning and manageability develop, by mediating the relationship between organizational characteristics and satisfaction, empowerment represents a mechanism that illustrates how an officer's experience of organizational culture (e.g., hassles and uplifts) is translated, via the above schema components, into resilience and future adaptive capacity. Having identified the potential of empowerment theories to inform understanding of resilience, the next issue involves identifying its organizational predictors.

Several antecedents to psychological empowerment have been identified. Prominent among these are social structural variables (access to resources and information, organizational trust, peer cohesion, and supervisory support) and personal characteristics (personality). This literature can contribute to identifying the predictors of empowerment that can be included in the Stress Shield model.

Access to Resources

Having insufficient, inadequate, or inappropriate resources to perform response tasks contributes to critical incident stress risk (Carafano, 2003; Paton, 1994). Having resources (physical, social, and informational) allows individuals to take initiative and enhance their sense of control (impact) and self-efficacy (competence) over environmental challenges (Gist & Mitchell, 1992; Lin, 1998; Paton, 1994). One resource that plays a pivotal role in predicting empowerment is information.

Crisis information management systems capable of providing pertinent information in conditions of uncertainty are essential to adaptive capacity in emergency responders (Paton & Flin, 1999) and play an important role in creating a sense of purpose and meaning (Conger & Konungo, 1988) among officers (Figure 3). However, information itself is not enough. The social context in which information is received is an equally important determinant of empowerment. In this context, one aspect of the agency-officer relationship becomes particularly important, and that is trust.

Trust

Trust is a prominent determinant of the effectiveness of interpersonal relationships, group processes, and organizational relationships (Barker & Camarata, 1998; Herriot, Hirsh, & Reilly, 1998), and it plays a crucial role in empowering officers (Spreitzer & Mishra, 1999). People functioning in trusting, reciprocal relationships are left feeling empowered and are more likely to experience meaning in their work. Trust has been identified as a predictor of a person's ability to deal with complex, high-risk events (Siegrist & Cvetkovich, 2000), particularly when relying on others to provide information or assistance.

Trust influences one's perception of other's motives, their competence, and the credibility of the information they provide (Earle, 2004). People are more willing to commit to acting cooperatively in high-risk situations when they believe those with whom they must collaborate or work under are competent, dependable, and likely to act with integrity (in the present and in the future) and care for their interests (Dirks, 1999). Organizations functioning with cultures that value openness and trust create opportunities for officers to engage in learning and growth, thus contributing to the development of officers' adaptive capacity (competence) (Barker & Camarata, 1998; Siegrist & Cvetkovich, 2000) (Figures 3 and 4). The quality of this aspect of the interpersonal environment is also influenced by officers' dispositional characteristics.

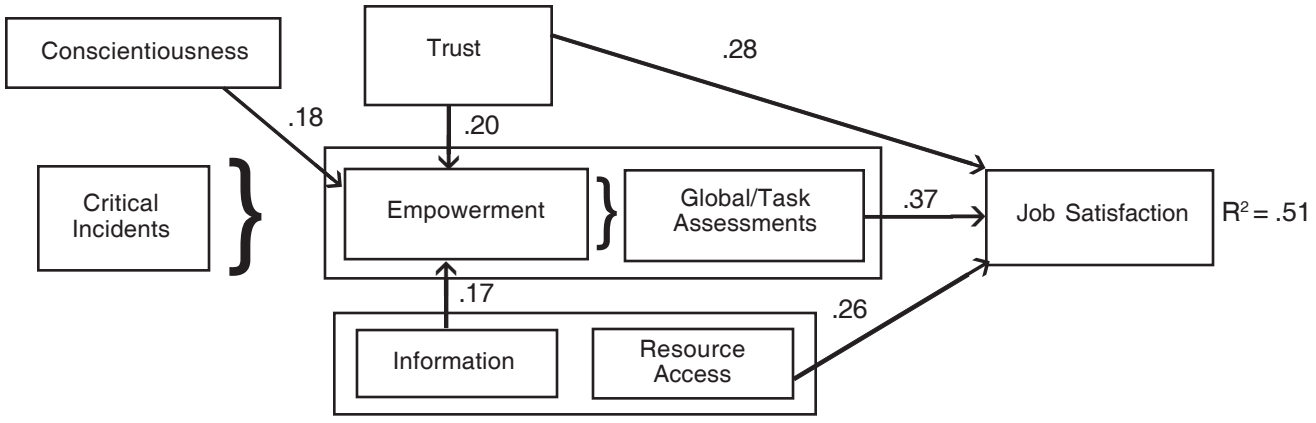
Dispositional Influences

Although less extensively researched than other variables, one dispositional factor that has attracted interest is the personality dimension of conscientiousness, particularly with regard to its attributes of achievement orientation and dependability (McNaus & Kelly, 1999). Conscientious individuals experience a stronger sense of meaning and competence in their work, particularly during times of change and disruption (e.g., responding to critical incidents in which officers need to adapt to unpredictable, emergent demands) (Thomas & Velthouse, 1990), demonstrate greater levels of perseverance in these efforts (Behling, 1998), and are more committed to contributing to collective efforts (Hough, 1998). This contributes positively to both the level of cooperation with and support for coworkers that they demonstrate in work contexts and to sustaining a cohesive team response to complex events.

Modeling Empowerment and Resilience

Using these variables, Johnston and Paton (2003) described how empowerment mediated the relationship between the above predictors and resilience (job satisfaction) in hospital staff dealing with critical incidents. Psychological empowerment was measured using Spreitzer's (1995a) empowerment scale. Trust was measured using the interpersonal trust at work scale (Cook & Wall, 1980). Access to resources and information was assessed using Spreitzer's (1995b) social structural measures. Conscientiousness was assessed using Costa and McCrae's (1992) conscientiousness scale. The results are summarized in Figure 3.

Figure 3: The relationship between empowerment and job satisfaction. Adapted from Johnston (2002) and Johnston and Paton (2003).



The model shown in Figure 3 provided good support for the role of empowerment as a predictor of resilience, accounting for some 51% of the variance in job satisfaction. It also supports the inclusion of empowerment in the Stress Shield model. However, before doing so, other social structural (e.g., senior officer attitudes and behavior, levels of peer cohesion and support) and dispositional (e.g.., hardiness) variables capable of predicting adaptive capacity through empowerment can be identified.

Senior Officer Support and Empowerment

Senior officers play a central role in developing and sustaining empowering environments (Liden, Wayne, & Sparrow, 2000; Paton & Stephens, 1996). They have a major role in creating and sustaining a climate of trust and empowerment as a result of their being responsible for translating the organizational culture into the day-to-day values and procedures that sustain the schema officers engage to plan for and respond to critical incidents.

Leadership practices such as positive reinforcement help create an empowering team environment (Manz & Sims, 1989; Paton, 1994). This is particularly true when senior officers focus on constructive discussion of response problems and how these problems can be resolved in the future; this type of approach from both coworkers and senior officers empowers employees (Quinn & Spreitzer, 1997). It does so by drawing one's emphasis away from personal weaknesses in a difficult or challenging situation and placing it on an active approach of anticipating how to exercise control in the future (Paton & Stephens, 1996). In this way, the behavior of senior officers contributes to the development of the attributional, envisioning, and evaluative schema components (see above) that are instrumental in translating officers' organizational experiences into resilient beliefs and competencies.

Quality supervisor-subordinate relationships, of which supportive supervisor behavior is a crucial factor (Liden, Sparrow, & Wayne, 1997), create the conditions necessary for personal growth (Cogliser & Schriesheim, 2000) by enhancing general feelings of competence (global assessment) (see Figure 4). Additionally, quality supervisor-subordinate relationships encourage the creation of similar value structures between officers (Cogliser & Schriesheim), building shared schema, enabling employees to find increased meaning in their task activities, and contributing to the development of a sense of cohesion between colleagues.

Peer Cohesion and Empowerment

The quality of relationships between coworkers predicts the meaning that officers' perceive in their work (Major, Kozlowski, Chao, & Gardner, 1995; Liden et al., 2000; Mullen & Cooper, 1994; Paton & Stephens, 1996; Perry, 1997) and increases the level of social support provided to coworkers (George & Bettenhausen, 1990). Members of cohesive work teams are more willing to share their knowledge and skills, an essential prerequisite for the development and maintenance of the learning culture that is fundamental to agency and officer resilience. Cohesive networks are also less dependent on senior officers for obtaining important resources. Peer relationships are an alternative source for such resources (Liden et al., 1997), contributing to a greater sense of self-determination in one's work (see Figure 4).

Taken together, the social structural variables of senior officer support and peer cohesion can make a valuable contribution to a model of resilience (see Figure 4). In the earlier discussion of the choice and impact components of empowerment (see above), a comparison was made between them and the construct of perceived control. Consequently, the final variable proposed for the model, hardiness, is a dispositional one that informs an understanding of the relationship between perceived control and resilience.

Hardiness and Empowerment

Hardiness has a long history as a predictor of resilience, one which embraces the officer-agency relationship (Bartone, 2004). Hardiness may be an important adjunct to empowerment. Portraying empowerment as a multi-level process introduces another issue. Although organizational decisions can provide the conditions necessary to enable officers, this does not automatically imply that officers will be able to fully utilize these opportunities. It is necessary to have an enabling (empowering) environment and officers with the dispositional characteristics to be empowered (see Figure 4). The control, challenge, and commitment facets of hardiness represent a dispositional indicator of officers' potential to utilize environmental opportunities to learn from an empowering environment. For this reason, hardiness is included in the model. It has an advantage over conscientiousness in that hardiness is open to change through team and organizational intervention (Bartone).

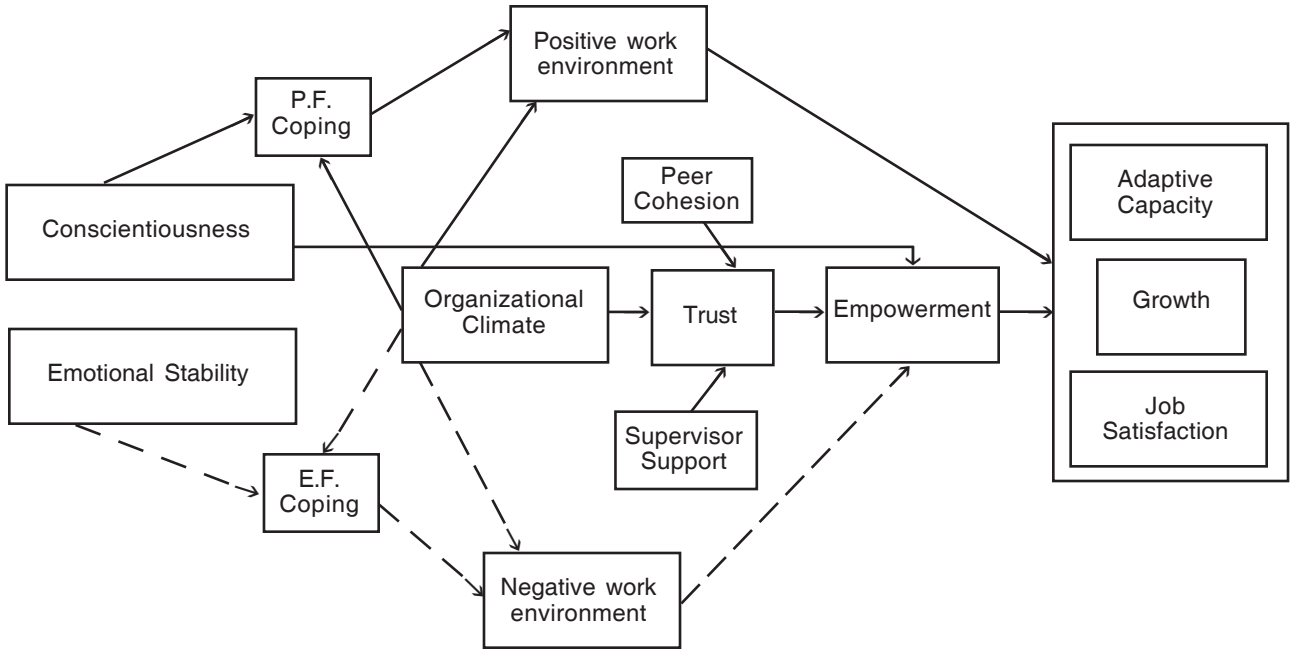
Integrating the occupational health and empowerment models (Figure 1 and 3) with the additional factors described above provides the foundation for the Stress Shield model of resiliency. The Stress Shield model is depicted in Figure 4. Paths contributing to the development of empowerment are shown as solid lines. Paths proposed to reduce empowerment are illustrated as hatched lines. Because it can capture changes in perceived coherence, meaningfulness, and manageability, satisfaction is retained as an outcome measure. However, because the occupational health and empowerment literatures have not examined posttrauma outcomes specifically, a measure capable of capturing this aspect of officers' experience must be included in any test of the model. For this reason, posttraumatic growth has been included as an outcome measure in the model (Figure 4).

Conclusion

Recognition of the fact that critical incidents can result in resilient (adaptive and growth-oriented) outcomes for police officers means that exercising duty of care requires that police agencies have at their disposal a model that they can use to guide the development and maintenance of resilience. Furthermore, because police officers will encounter unpredictable and challenging circumstances repeatedly, it is important that resilience programs be designed as learning strategies and that any model used to guide this activity identify the resources and competencies that facilitate the proactive development of officers' general capacity to adapt (i.e., render any future experience meaningful and manageable) to unpredictable circumstances. The Stress Shield model was proposed as a means of achieving this goal.

The Stress Shield model was developed by integrating and building on theoretically robust and empirically tested work. This approach increases the expected utility of the model. The Stress Shield model describes resilience as resulting from the interaction between person, team, and organizational factors. However, the benefit of any model is a function of its being theoretically rigorous and capable of informing the design of practical programs in police agencies. All model components (with the exception of conscientiousness, and its influence can be accommodated in selection or assessment procedures) are amenable to change through organizational intervention and change strategies. Guidelines for changing hardiness, peer support, supervisor support, organizational hassles and uplifts, trust, and empowerment are available in the literature (Bartone, 2004; Cogliser &

Figure 4: The Stress Shield model of resilience. Solid lines indicate positive influences on adaptive capacity and growth. Dashes lines indicate pathways with a negative influence on empowerment.



Schriesheim, 2000; Hart et al., 1993; Herriot et al., 1998; Perry, 1997; Quinn & Spreitzer, 1997). The fact that the proposed Stress Shield model is derived from empirically validated theories and includes variables that can be acted upon and influenced by police agencies to influence selection, training, assessment, and strategies for change confers upon the model both theoretical rigor and practical utility.

REFERENCES

Aldwin, C. M., Levenson, M. R., & Spiro, A., III. (1994). Vulnerability and resilience to combat exposure: Can stress have lifelong effects? *Psychology and Aging, 9*, 34¬44.

Antonovsky, A. (1990). Personality and health: Testing the sense of coherence model. In H. S. Friedman (Ed.), *Personality and disease* (pp. 155-177). New York: John Wiley & Sons.

Anderson, N.R., & West, M.A. (1998). Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behavior, 19*, 235-258.

Armeli, S., Gunthert, K. C., & Cohen, L. H. (2001). Stressor appraisals, coping, and post-event outcomes: The dimensionality and antecedents of stress-related growth. *Journal of Social and Clinical Psychology, 20*, 366-395.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review, 84*, 191-215.

Barker, R.T., & Camarata, M.R. (1998). The role of communication in creating and maintaining a learning organization: Preconditions, indicators, and disciplines. *Journal of Business Communication, 35*, 443-467.

Bartone, P. (2004). Increasing resiliency through shared sensemaking: Building hardiness in groups. In D. Paton, J. Violanti, C. Dunning, & L.M. Smith (Eds.), *Managing traumatic stress risk: A proactive approach* (pp. 129-140). Springfield, IL: Charles C. Thomas.

Behling, O. (1998). Employee selection: Will intelligence and personality do the job? *Academy of Management Executive, 12*, 77-86.

Brayfield, A.H., & Rothe, H.F. (1987). Job satisfaction index. In B. Stewart, G. Hetherington, & M. Smith (Eds.), *Survey item bank* (Vol. 1, pp. 21-31). Harrowgate: University Press.

Britt, T.W., Adler, A.B., & Bartone, P.T. (2001). Deriving benefits from stressful events: The role of engagement in meaningful work and hardiness. *Journal of Occupational Health Psychology, 6*, 53-63.

Burke, K., & Paton, D. (2006). Well-being in protective services personnel: Organisational Influences. *Australasian Journal of Disaster and Trauma Studies*, 2006-2. http://trauma.massey.ac.nz/issues/2006-2/burke.htm

Carafano, J.J. (2003). *Preparing responders to respond: The challenges to emergency preparedness in the 21st Century* (Heritage Lecture No. 812). Washington, DC: The Heritage Foundation.

Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*, 267-283.

Cogliser, C.C., & Schriesheim, C.A. (2000). Exploring work unit context and leader-member exchange: A multi-level perspective. *Journal of Organizational Behavior, 21*, 487-511.

Conger, J.A., & Konungo, R. (1988). The empowerment process: Integrating theory and process. *Academy of Management Review, 13*, 471-482.

Cook, J., & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need nonfulfilment. *Journal of Occupational Psychology, 53*, 39-52.

Costa, P.T, & McCrae, R.R. (1992). *Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.

Dirks, K.T (1999). The effects of interpersonal trust on work group performance. *Journal of Applied Psychology, 84*, 445-455.

Earle, T. C. (2004). Thinking aloud about trust: A protocol analysis of trust in risk management. *Risk Analysis, 24*, 169-183.

Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. (2003). What good are positive emotions in crises?: A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology, 84*, 365–376.

George, J.M., & Bettenhausen, K. (1990). Understanding prosocial behavior, sales and turnover: A group level analysis in a service context. *Journal of Applied Psychology, 75*, 698-709.

Gist, M., & Mitchell, T.N. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review, 17*, 183-211.

Hart, P.M., & Cooper, C.L. (2001). Occupational Stress: Toward a more integrated framework. In N. Anderson, D.S. Ones, H.K. Sinangil, & C. Viswesvaren (Eds.), *International handbook of work and organizational psychology, Vol. 2: Organizational psychology* (pp. 27-48). London: Sage Publications.

Hart, P. M., Wearing, A. J., & Headey, B. (1993). Assessing police work experiences: Development of the Police Daily Hassles and Uplifts Scales. *Journal of Criminal Justice, 21*, 553-572.

Herriot, P., Hirsh, W., & Reilly, P. (1998). *Trust and transition: Managing today's employment relationship*. Chichester: John Wiley & Sons.

Hough, L.M. (1998). Personality at work: Issues and evidence. In M.D. Hakel (Ed.), *Beyond multiple choice: Evaluating alternatives to traditional testing for selection* (pp. 131-166). Mahwah, NJ: Lawrence Erlbaum.

Janoff-Bulman, R. (1992). *Shattered assumptions*. New York: Free Press.

Johnston, P. (2002). Psychological empowerment as a mediating and multidimensional construct. Unpublished master's thesis, Massey University, Albany, New Zealand.

Johnston, P., & Paton, D. (2003). Environmental resilience: Psychological empowerment in high-risk professions. In D. Paton, J. Violanti, & L. Smith (Eds.), *Promoting capabilities to manage posttraumatic stress: Perspectives on resilience* (pp. 136-151). Springfield, IL: Charles C. Thomas.

Kirkman, B.L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal, 42*, 58-74.

Klein, R., Nicholls, R., & Thomalla, F. (2003). Resilience to natural hazards: How useful is this concept? *Environmental Hazards, 5*, 35-45.

Koberg, C.S., Boss, R.W., Senjem, J.S., & Goodman, E.A. (1999). Antecedents and outcomes of empowerment. *Group & Organization Management, 24*, 71-91.

Liden, R.C., Sparrow, R.T., & Wayne, S.J. (1997). Leader-member exchange theory: The past and potential for the future. *Research in Personnel and Human Resources Management, 15*, 47-119.

Liden, R.C., Wayne, S.J., & Sparrow, R.T. (2000). An examination of the mediating role of psychological empowerment on the relations between the job, interpersonal relationships, and work outcomes. *Journal of Applied Psychology, 85*, 407-416.

Lin, C.Y. (1998). The essence of empowerment: A conceptual model and a case illustration. *Journal of Applied Management Studies, 7*, 223-238.

MacLeod, M.D., & Paton, D. (1999). Police officers and violent crime: Social psychological perspectives on impact and recovery. In J.M. Violanti and D. Paton (Eds.), *Police trauma: Psychological aftermath of civilian combat*. Springfield, IL: Charles C. Thomas.

Major, D.A., Kozlowski, S.W., Chao, G.T., & Gardner, P.D (1995). A longitudinal investigation of newcomer expectations, early socialization outcomes, and the moderating effects of the role development factors. *Journal of Applied Psychology, 80*, 418-431.

Manz, C.C., & Sims, H. (1989). *Super-leadership: Teaching others to lead themselves*. New York: Prentice Hall.

McNaus, M.A., & Kelly, M.L. (1999). Personality measures and biodata: Evidence predicting their incremental predictive value in the life insurance industry. *Personnel Psychology, 52*, 137-148.

Mullen, B., & Cooper, C. (1994). The relation between group cohesiveness and performance: An integration. *Psychological Bulletin, 115*, 210-227.

North, C.S., Tivis, L., McMillen, J.C., Pfefferbaum, B., Cox, J., Spitznagel, E.L., Bunch, K., Schorr, J., & Smith, E.M. (2002). Coping, functioning, and adjustment of rescue workers after the Oklahoma City bombing. *Journal of Traumatic Stress, 15*, 171–175.

Paton, D. (1994). Disaster relief work: An assessment of training effectiveness. *Journal of Traumatic Stress, 7*, 275 - 288.

Paton, D. (2006). Posttraumatic growth in emergency professionals. In. L. Calhoun and R. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research and practice*. Mahwah, NJ: Lawrence Erlbaum Associates.

Paton, D., & Flin, R. (1999). Disaster stress: An emergency management perspective. *Disaster Prevention and Management, 8*, 261-267.

Paton, D., & Jackson, D. (2002). Developing disaster management capability: An assessment centre approach. *Disaster Prevention and Management, 11*, 115-122.

Paton, D., Smith, L.M., Ramsay, R., and Akande, D. (1999). A structural re-assessment of the Impact of Event Scale: The influence of occupational and cultural contexts. In R. Gist and B. Lubin (Eds.), *Response to disaster* (pp. 83-100). Philadelphia: Taylor & Francis.

Paton, D., Smith, L.M., Violanti, J., & Eranen, L. (2000). Work-related traumatic stress: Risk, vulnerability and resilience. In D. Paton, J.M. Violanti, & C. Dunning (Eds.), *Posttraumatic stress intervention: Challenges, issues and perspectives* (pp. 187-204). Springfield, IL: Charles C. Thomas.

Paton, D., & Stephens, C. (1996). Training and support for emergency responders. In D. Paton & J. Violanti (Eds.), *Traumatic Stress in critical occupations: Recognition, consequences and treatment*. Springfield, IL: Charles C. Thomas.

Paton, D., & Violanti, J.M. (2008). Law enforcement response to terrorism: The role of the resilient police organization. *International Journal of Emergency Mental Health, 10-2,* 125-136.

Paton, D., Violanti, J.M., & Smith, L.M. (2003). *Promoting capabilities to manage posttraumatic stress: Perspectives on resilience*. Springfield, IL: Charles C. Thomas.

Perry, I. (1997). Creating and empowering effective work teams. *Management Services, 41*, 8-11.

Quinn, R.E., & Spreitzer, G.M. (1997). The road to empowerment: Seven questions every leader should consider. *Organisaitonal Dynamics*, Autumn, 37-49.

Raphael, B. (1986) *When disaster strikes*. London: Hutchinson.

Siegrist, M., & Cvetkovich, G. (2000). Perception of hazards: The role of social trust and knowledge. *Risk Analysis, 20*, 713-719.

Spreitzer, G.M. (1995a). An empirical test of a comprehensive model of intrapersonal empowerment in the workplace. *American Journal of Community Psychology, 23*, 601-629.

Spreitzer, G.M. (1995b). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal, 38*, 1442-1465.

Spreitzer, G.M. (1996). Social structural characteristics of psychological empowerment. *Academy of Management Journal, 39*, 483-504.

Spreitzer, G.M. (1997). Toward a common ground in defining empowerment. *Research in Organizational Change and Development, 10*, 31-62.

Spreitzer, G.M., Kizilos, M.A., & Nason, S.W. (1997). A dimensional analysis of the relationship between psychological empowerment and effectiveness, satisfaction and strain. *Journal of Management, 23*, 679-704.

Spreitzer, G.M., & Mishra, A.K. (1999). Giving up control without losing control: Trust and its substitutes' effect on managers involving employees in decision making. *Group & Organization Management, 24*, 155-187.

Thomas, K.W., & Tymon, W. (1994). Does empowerment always work?: Understanding the role of intrinsic motivation and interpretation. *Journal of Management Systems, 6*, 84-99.

Thomas, K.W., & Velthouse, B.A. (1990). Cognitive elements of empowerment: An "interpretive" model of intrinsic motivation. *Academy of Management Review, 15*, 666-681.

Weick, K.E., & Sutcliffe, K. M. (2007). *Managing the unexpected: Resilient performance in an age of uncertainty* (2nd ed.). San Francisco: Jossey-Bass.

Manuscript Received: September 26, 2007

Accepted for Publication: April 14, 2008

CHEVRON
PUBLISHING CORPORATION

PO Box 6274
Ellicott City, MD 21042 USA
Telephone: (410) 418-8002
Fax: (410) 418-8006
office@chevronpublishing.com

Purpose and Scope

The **International Journal of Emergency Mental Health** provides a peer-reviewed forum for researchers, scholars, clinicians, and administrators to report, disseminate, and discuss information with the goal of improving practice and research in the field of emergency mental health.

The **International Journal of Emergency Mental Health** is a multidisciplinary quarterly designed to be the premier international forum and authority for the discussion of all aspects of emergency mental health.

The **Journal** publishes manuscripts (APA style) on relevant topics including psychological trauma, disaster psychology, traumatic stress, crisis intervention, emergency services, Critical Incident Stress Management, war, occupational stress and crisis, employee assistance programs, violence, terrorism, emergency medicine and surgery, emergency nursing, suicidology, burnout, and compassion fatigue. The **Journal** publishes original research, case studies, innovations in program development, scholarly reviews, theoretical discourse, and book reviews.

Additionally, the **Journal** encourages the submission of philosophical reflections, responsible speculations, and commentary. As special features, the **Journal** provides an ongoing continuing education series providing topical reviews and updates relevant to emergency mental health as well as an ongoing annotated research updates of relevant papers published elsewhere, thus making the **Journal** a unique and even more valuable reference resource.

In accordance with the American National Standard/National Information Standards Organization (ANSI/NISO), this journal is printed on acid-free paper.

INTERNATIONAL JOURNAL OF EMERGENCY MENTAL HEALTH

International Journal of Emergency Mental Health (ISSN 1522-4821) is published quarterly by Chevron Publishing Corporation, Inc., PO Box 6274, Ellicott City, MD 21042 USA. Fourth class postage rates paid at Ellicott City, Maryland.

- SUBSCRIPTION PRICES: 2008 (four issues): Institutions: $390.00 (Foreign: $485.00); Individuals $82.00 (Foreign: $128.00) payable in U.S. funds through a U.S. bank. Credit card orders may be placed by calling (410) 418-8002.
- SINGLE ISSUES: Available from the publisher for $25.00 per issue.
- CHANGE OF ADDRESS: Please inform the publisher at least six weeks prior to any change. If possible, include old mailing label.

INTERNATIONAL JOURNAL OF
EMERGENCY MENTAL HEALTH

Volume 10 • Number 2 • Spring 2008

ORIGINAL ARTICLES

EMERGENCY MENTAL HEALTH UPDATES - Jeffrey M. Lating, Associate Editor

MEDIA REVIEWS - Daniel Clark, Media Review Editor