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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.

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The *International Journal of Emergency Mental Health* is a practice-oriented resource for active professionals in the fields of psychology, law enforcement, public safety, emergency medical services, mental health, education, criminal justice, social work, pastoral counseling, and the military. The journal publishes articles dealing with traumatic stress, crisis intervention, specialized counseling and psychotherapy, suicide intervention, crime victim trauma, hostage crises, disaster response and terrorism, bullying and school violence, workplace violence and corporate crisis management, medical disability stress, armed services trauma and military psychology, helper stress and vicarious trauma, family crisis intervention, and the education and training of emergency mental health professionals. The journal publishes several types of articles:

- *Research reports:* Empirical studies that contribute to the knowledge and understanding of traumatic disability syndromes and effective interventions.
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ORIGINAL ARTICLES

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

MEDIA REVIEWS - Daniel Clark, Media Review Editor

Introduction to Special Issue Focusing on Resiliency and Invulnerability in Law Enforcement

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Psychology and the behavioral sciences have flirted with the concept of normalcy or, rather, what constitutes being "normal" for well over 100 years. Indeed, Freud wrote of the abilities of healthy individuals to be able to withstand the normal miseries of every-day life. Later, and beginning in the 1950s, Carl Rogers, Abraham Maslow, George Kelly, and Rollo May, as well as other personality theorists, wrote of personality characteristics that human beings need to function normally. In contrast to the structured and symptom-based Diagnostic Manual for Mental Disorders, in the 1960s a classification system developed by the Group for the Advancement of Psychiatry described healthy responses of the individual in terms of total functioning. For the most part, however, many of the techniques of psychological diagnosis and classification have followed a medical, or "disease," model wherein the person is viewed as having an illness made up of symptoms and having cause as a result of internal dynamics. This model of psychopathology dominated the clinical psychological theoretician's world until the advent of the cognitive behaviorists, who were really the first successful challengers to the medical model and its control over our view of people.

Also evolving during this time were a few researchers who wanted to focus on healthy functioning. Among these was E. James Anthony, who in the late 1980s, promoted the concepts of invulnerability and resilience. More precisely stated, this school of thought was determined to reveal those protective factors within individuals that help them survive emotionally intense environments, situations, or events. What was in the make-up of these people that helped them emerge relatively or virtually unscathed emotionally from traumatic situations?

As the *International Journal of Emergency Mental Health* has been at the forefront of providing the communities of scientists and practitioners with research regarding the manner in which trauma affects us, so it has also been at the forefront in illuminating how traumatic events specifically affect law enforcement officers, their families, and the law enforcement community as a whole.

This issue of the *Journal* is devoted to providing new insights into the factors of resilience and invulnerability that promote healthy functioning in what is considered by many, internationally, to be the most stressful occupation of all. Each of the authors of the articles in this issue is considered to be an expert in the law enforcement field. I would expect their wisdom, kindly provided here by invitation, to be a significant resource for the mental health critical care specialist who provides Critical Incident Stress Management and/or clinical services to the law enforcement community.

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Crisis Intervention and Fostering Resiliency

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Abstract: *Current estimates are that most people living in the United States will experience at least one violent or life-threatening event during their lives. Recent data suggest, however, that most people exposed to traumatic events do not experience serious disruptions in normal life functioning, and are in fact resilient. The purpose of this article is to review the constructs of resilience and recovery, and to suggest how early crisis intervention, historically linked with the mitigation or prevention of psychological distress, may more accurately be conceptualized in terms of fostering or enhancing resiliency. [International Journal of Emergency Mental Health, 2008, 10(2), pp. 87-94].*

Key words: *resilience, recovery, early crisis intervention, CISM, CISD*

Traumatic events are imbedded in the fabric of human history, and their physical and emotional impact has been profound. Within the past decade, the attacks of September 11, 2001, the tsunami in south and southeast Asia in December of 2004, the bombings in Madrid of March of 2004, the bombings in London in July of 2005, Hurricane Katrina in August of 2005, the shootings at Virginia Tech in April of 2007, and daily murders and assaults are just some examples that suggest the virtually inescapable nature of trauma. In fact, Kessler and colleagues (1995) estimate that most people living in the United States will experience at least one violent or life-threatening event during their lives.

One population that is vulnerable to the recurrent effects of trauma is law enforcement officers. Whether it is the risk of bodily harm, extended shifts, or emotionally distressing investigations such as child sexual abuse cases, the law enforcement profession is particularly susceptible to the impact of trauma. However, despite the daunting nature of their activities, most law enforcement officers function effectively. The purpose of this special edition of the Journal is to explore the construct of resiliency in law enforcement personnel. The purpose of this article is to provide an historical overview of the construct of resiliency and its relation to crisis intervention.

Historical Perspectives

Although concerns about the emotional toll and reactions to traumatic events have been of interest for thousands of years (Shay, 1994), it was not until 1980 that the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM III; American Psychiatric Association, 1980) specified a formal diagnosis of posttraumatic stress disorder (PTSD) to address the signs and symptoms associated with exposure to traumatic events. It is notable that the diagnostic criteria were rationally, not empirically, derived, mainly from clinical observations of returning Vietnam war combat veterans (Andreasen, 1983).

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Earlier versions of DSM also addressed reactions to trauma. Predicated on Freud's influential writings on traumatic neurosis, the DSM (APA, 1952) contained the diagnostic classification Gross Stress Reaction within the category of Transient Situational Personality Disorders. This diagnosis was intended to reflect the view that such conditions were thought to be acute reactions of "more or less 'normal' persons who have experienced intolerable stress" (DSM, 1952, p. 40). Moreover, the diagnosis stated that "when promptly and adequately treated, the condition may clear rapidly" (p.40). It was also implied that if the reactions persisted, then an alternative diagnosis, such as neurosis or psychosis should be considered (Wilson, 1995). According to the most recent edition of the DSM (DSM IV; APA, 1994), PTSD comprises 17 potential symptoms divided into three clusters: re-experiencing the trauma, avoidance/numbing associated with reminders of the trauma, and hyperarousal.

Since the introduction of PTSD as a defined diagnostic entity in 1980, literally thousands of articles and books have been published related to its phenomenology, assessment, and treatment. Epidemiologic studies have identified a broad range of PTSD prevalence in the aftermath of traumatic events. For example, epidemiological data in New York after September 11 found probable PTSD rates ranging from 7.5% to 20% (Galea et al., 2002). In a web-based survey of a nationally representative sample of 2273 adults, Schlenger and colleagues (2002) reported probable PTSD prevalence rates ranging from 11.2% in New York City to 2.7% in Washington, DC in the same period. In a sample of 2050 American Airlines flight attendants in the aftermath, more than 18% reported symptoms consistent with probable PTSD (Lating, Sherman, Everly, Lowry, & Peragine, 2004). Current estimates suggest that typically 5% - 10% of individuals exposed to traumatic events will meet diagnostic criteria for PTSD (Ozer, Best, Lipsey, & Weiss, 2003).

Trauma and Resiliency

While these numbers attest to the regrettable suffering that traumatic events may cause, there is growing recognition that many, if not most, people exposed to traumatic events do not experience serious disruptions in normal life functioning (Mancini & Bonanno, 2006). These individuals may be considered to be exhibiting what is labeled resilience. Bonanno (2004) defines resilience as "the ability of adults in otherwise normal circumstances who are exposed to an iso-lated and potentially disruptive event, such as the death of a close relation or a violent or life-threatening situation, to maintain relatively stable, healthy levels of psychological and physical functioning" (p. 20). Kaminsky and his colleagues (2007) propose a model of disaster mental health that includes resistance, resilience, and recovery as a strategic and integrative paradigm. They define resilience as "the ability of an individual, a group, an organization, or even an entire population, to rapidly and effectively rebound from psychological and/or behavioral perturbations associated with critical incidents, terrorism, and even mass disaster (p. 3). Kaminsky et al. (2007) conceptualize resistance as "a form of psychological/behavioral immunity to distress and dysfunction" (p. 3). For definitional purposes, it appears that Kaminsky and colleagues (2007) separate Bonanno's construct of resiliency into concepts of resistance and resiliency. However, what Bonanno's and Kaminsky et al.'s definitions both suggest is that although resilient people may experience discomfort following a traumatic event, their overall level of functioning remains preserved.

Both Bonanno (2004) and Kaminsky et al. (2007) differentiate between resilience and recovery. Bonanno (2004) states that "recovering individuals often experience sub-threshold symptom levels" (p.20-21), whereas Kaminsky et al. (2007) suggest that recovery "refers to the ability of an individual, a group, an organization, or even an entire population to literally recover the ability to adaptively function, both psychologically and behaviorally, in the wake of a significant clinical distress, impairment, or dysfunction subsequent to critical incidents, terrorism, and even mass disasters" (p. 5). While these differentiations will be addressed later, the main focus of this article is resiliency.

The idea that individuals may be resilient in the aftermath of traumatic events is actually quite different than what many researchers conceptualized a decade ago. For example, McFarlane and Yehuda (1996) considered the maintenance of relatively stable and healthy functioning following a traumatic event an anomaly that was likely predicated on either incredible emotional fortitude or some type of excessive denial that warranted intervention. Moreover, the assumption of many bereavement theorists has been that the absence of distress or depression following the death of a loved one was a form of defensive denial (Bowlby, 1980), personality pathology (Osterweis, Solomon, & Green, 1984) or delayed grief (Middleton, Moylan, Raphael, Burnett, & Martinek, 1993).

Wortman and Silver (1989) are often credited as the first to suggest that no empirical basis existed to support the assertions that the absence of stress during bereavement was somehow pathological or that delayed grief was expected. However, at the time their study was released there were minimal longitudinal data to support their contention (Bonanno, 2004). Rubonis and Bickman (1991), in one of the first comprehensive reviews of the relation between the occurrence of disaster and psychopathology, evaluated 52 studies and reported an overall psychopathology incidence rate of 17%. Relevant to the construct of resiliency was the finding that "the effect of disaster on psychopathology appears to diminish with time" (p.397).

Empirical Evidence of Trauma and Resiliency

Developmental researchers have investigated various protective factors that foster generally healthy functioning in those exposed to tragic life circumstances. Early on, the preponderance of this research was conducted on grieving individuals following the loss of a loved one. Shuchter and Zisook (1993) reported on survey data from a sample of 350 widows and widowers two months after their loss. They found that despite 70% of the respondents acknowledging it was "hard to believe" that their spouse had died, only 20% reported difficulty concentrating and even fewer (17%) noted difficulty making decisions. In a 1997 study of gay men who provided care for their partners with AIDS (Stein, Folkman, Trabasso & Richards, 1997), the bereaved caregivers described more positive beliefs about the relationship (e.g., feelings of personal strength) than negative beliefs in the first few weeks following their partner's death. In addition, these more positive appraisals were predictive of well-being a year after their partner's death.

In a longitudinal study by Bonnano and colleagues (2002) that began several years before the death of the spouse and continued for several years following the death, 46% of the participants evidenced no clinical depression at any time during the study. Moreover, of those demonstrating enhanced resilience, about 75% reported intense feelings of longing during the earliest months of bereavement but were able to maintain function.

In a 2005 study that compared younger (less than 65 years of age) bereaved adults following the death of a spouse or a child with a matched group of non-bereaved individuals (those with intact marriages), Bonanno, Moskowitz, Papa,

and Folkman (2005) reported that 52% of the bereaved individuals were considered resilient (defined as scoring within one standard deviation of the non-bereaved group's mean on assessed symptom levels) at both 4 and 18 months post loss. In fact, by 18 months post loss, resilient individuals were equivalent to non-bereaved individuals on the symptom ratings. A second part of this study investigated resiliency in gay men as they cared for their partners dying from AIDS. It was notable that 50% of the caregivers fell within one standard deviation of the mean level of depressed mood observed in the non-bereaved control and were therefore considered resilient. Furthermore, even when more restrictive criteria were used for comparison, 27% of the bereaved caregivers evidenced a resilient pattern, and an additional 9% of the caregivers considered depressed prior to the loss actually improved after the loss and had low levels of depression during bereavement.

Resiliency following Disasters

While data on resiliency have most frequently explored reactions following the death of a spouse or partner, there are recent data on resiliency after September 11. In the study noted previously concerning the 7.5% incidence rate of probable PTSD in the aftermath of the terrorist attacks on New York (Galea et al., 2002), it is notable that the incidence resolved to 0.6% six months after the initial data were collected (Galea et al., 2003). In another study following the terrorist attacks on September 11, Bonanno, Galea, Bucciarelli, and Vlahov (2006), using a representative sample of 2,752 New York residents, reported that more than 65% met criteria for resilience, defined as having no or only one PTSD symptom when assessed with the National Women's Study PTSD module. Even among the 59 participants in the sample who were physically injured, or the 22 who were in the building during the attack, close to 33% were resilient, although more than 26% had probable PTSD. Moreover, more than half of the sample involved in the rescue were resilient, as were close to 54% who experienced the death of a friend or relative. The effect of repeated or compound exposure to these tragic events lowered resilience. For example, for those who experienced the death of a friend or relative and also saw the attack in person, 33% were resilient.

Fraley, Fazzari, Bonanno, and Dekel (2006) examined the role that attachment style had on symptoms of PTSD and depression in a sample of 45 men and women who were high-exposure survivors (i.e., in or near the World Trade Center)

on September 11. Their results reveal that highly secure individuals, defined broadly as those who deny or desire for greater social contact following the tragedy, as evidenced by modest self-reported PTSD assessed 7 months after the attacks, with a decline in these symptoms over the next 11 months for the former group. The researchers use these data to suggest that secure or attached individuals are able to experience some type of personal growth or strength following the attacks, whereas highly dismissive adults showed neither an increase nor a decrease (i.e., no obvious reactions).

Factors that Influence Resiliency

There are several factors that have been purported to influence the enhancement of resiliency. Related to grieving individuals, Bonanno, Wortman, and Nesse (2004) have proposed that resilient individuals benefit or find solace in talking or thinking about their deceased spouse, report fewest regrets about their behavior related to their spouse (i.e., what they did or failed to do), and have less need to question or search for meaning in their spouse's death. Personality and coping styles also seem to influence resiliency. In a phenomenological, qualitative study of female adult survivors of childhood sexual abuse conducted by Bogar and Hulse-Killacky (2006), resiliency determinants — defined as specific innate and learned characteristics that contribute to participants' ability to become resilient adults, and resiliency processes — defined as how participants in the study described becoming resilient, were assessed. Their results identified five resiliency determinants that included: being interpersonally skilled or having the ability to interact positively and effectively with others; being competent (for example, excelling in school, being creative, or participating in athletics); having high interpersonal self worth or self-regard, frequently developed through self talk; being spiritual; and having helpful life circumstances such as being the youngest in the family. Resiliency processes were reportedly fostered by: coping strategies, such as writing, using prayers, keeping busy, setting boundaries, and avoiding as necessary; refocusing and moving on (e.g., focusing on something other than abuse); active healing (i.e., taking responsibility for their own recovery and refuting the "victim" role, often through individual and group counseling); and active closure, or being able to integrate the trauma into their current life stores without excessive emotional discomfort.

Other factors that may influence resiliency come from the September 11 data reviewed previously (Bonanno, Galea, et al., 2006). In this study, the authors noted that married people were more resilient than those who were unmarried, divorced, or separated. Moreover, males in this sample showed more resilience than did females, and Asian Americans as a group showed the highest rates of resiliency.

Resiliency and Crisis Intervention

Interventions seem to work more effectively when they are predicated on an underlying theoretical or conceptual basis. Having a conceptual framework from which to work not only provides a contextual structure but, perhaps even more importantly, provides targets by establishing a theoretical goal when applying a technique. It is from this basic premise that crisis intervention and resiliency are considered.

According to Everly and Mitchell (2000), the goals of early crisis intervention are: stabilization (i.e., cessation of escalating distress); mitigation of acute signs and symptoms of distress, dysfunction, or impairment; restoration of independent and adaptive functioning; and facilitated access to the next level of care. Moreover, some of the purported mechanisms of action in crisis intervention include cathartic ventilation (Pennebaker, 1999), offering group cohesion and social support (Flannery, 1998), imparting information (NIMH, 2002), serving as an advocate or a liaison (NIMH, 2002), meeting basic needs (NIMH, 2002), and providing stress management and problem-solving techniques (Everly & Lating, 2002).

There are a number of crisis intervention systems that have been utilized following traumatic events, including those associated with the American Red Cross, the National Organization for Victims Assistance (NOVA), and the Salvation Army. One of the earliest and most frequently used crisis intervention models is Critical Incident Stress Management (CISM; Everly & Mitchell, 2000). CISM refers to an integrated, multi-component, comprehensive crisis intervention system from the pre-crisis phase, through the acute phase, to the post-crisis intervention phase.

One of the most commonly employed CISM interventions, and one that has generated considerable debate regarding its effectiveness and efficacy (Devilly, Gist, Cotton, 2006; Mitchell, 2003) is Critical Incident Stress Debriefing (CISD), a seven-phase small group structured discussion that may take up to several hours to complete and often provided

one to 14 days after the trauma (Everly & Mitchell, 2000). The seven phases of the CISD are: 1) Introduction: introduce team members, explain the process and set expectations, 2) Fact: to allow participants to describe the event from their perspective, 3) Thought: to allow participants to describe cognitive reactions and to transition into emotional reactions, 4) Reaction: to allow participants to discuss at an emotional level the worst part of the event for them, 5) Symptom: to allow participants to identify personal symptoms of distress and transition again to a cognitive framework, 6) Teaching: to educate participants about normal reactions and adaptive coping responses, and 7) Re-entry: to answer questions, clarify ambiguities, and facilitate closure (Mitchell, 2006).

While the goals and mechanisms of action associated with crisis intervention may have historically been linked to the mitigation or prevention of the effects of distress, it seems more accurate to conceptualize early crisis intervention as being predicated on enhancing or fostering resiliency. In other words, in the aftermath of a crisis situation the preponderance of people, although possibly experiencing some transient distress, will end up functioning reasonably well (i.e., resilient). This is not a new tenet, and in fact appears consistent with the description noted previously in the original edition of the DSM that implied that with adequate and early intervention, the condition (i.e., distress) may clear rapidly. There are also components of CISM that support this contention, considering that from its inception CISM has purported not to be a form of psychotherapy and thus not designed to specifically treat, but to recognize, subthreshold levels of functioning and to refer as warranted to the next level of care.

Conceptualizing crisis intervention as a triaging form of assessment helps to distinguish the constructs of resiliency and recovery. Whereas assessment of function, on an individual or group basis, may be thought of as a way to foster resiliency, trauma treatment is more consistent with the construct of recovery. However, since most crisis intervention techniques are administered soon after a traumatic event, there may be occasions when there is minimal opportunity or capability to distinguish between those evidencing signs of being resilient and those experiencing sub-threshold symptoms requiring mechanisms to foster recovery.

From a CISM perspective, this distinction is most relevant when employing small group interventions where there is the possibility that resilient and recovering participants may be grouped together. This is why it is important to ad-

here to a core tenet of group crisis intervention and to ensure the homogeneity of the group with regard to incident exposure when organizing a debriefing (Everly & Mitchell, 2008). Moreover, in an effort not to vicariously expose individuals who may be in different phases of resilience and recovery, or who may not be from the same primary group (e.g., law enforcement officers, firefighters, military), it seems prudent to remember that a basic premise of the Fact Phase of CISD is to help re-establish a cognitive frame of reference, and not necessarily disclose all the (potentially graphic) details of the incident. In fact, according to Mitchell (2003), "the instructions provided by a CISM team during a CISD strongly suggest that only a very brief and general description of the experience be given..." (192).

There are some who believe that crisis intervention should entail screening individuals for possible risk factors associated with PTSD (Litz, Gray, Bryant, & Adler, 2002) and then targeting those individuals for intervention while excluding those who display resilience (Mancini & Bonanno, 2006). In situations where this is possible it may be worthwhile to attempt; however, logistics and timing may preclude this from being a consistent, viable option.

It is not the purpose of this article to contribute to the debate regarding the effectiveness or efficacy of debriefings. Nor is it intended to discern whether debriefings can or should be able to accurately differentiate between the resilience and recovery of participants, although this may be a relevant empirical question worthy of quantitative investigation. Instead, the purpose of this article is to reinforce to those who are likely already aware, and more relevantly, to instill in those who may not appreciate it, that the overarching goal of early crisis intervention should be fostering resiliency for the preponderance of those seen following a critical incident, and determining how to access the appropriate level of care for those in need of assistance to recovery.

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Stress Shield: A Model of Police Resiliency

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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

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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).
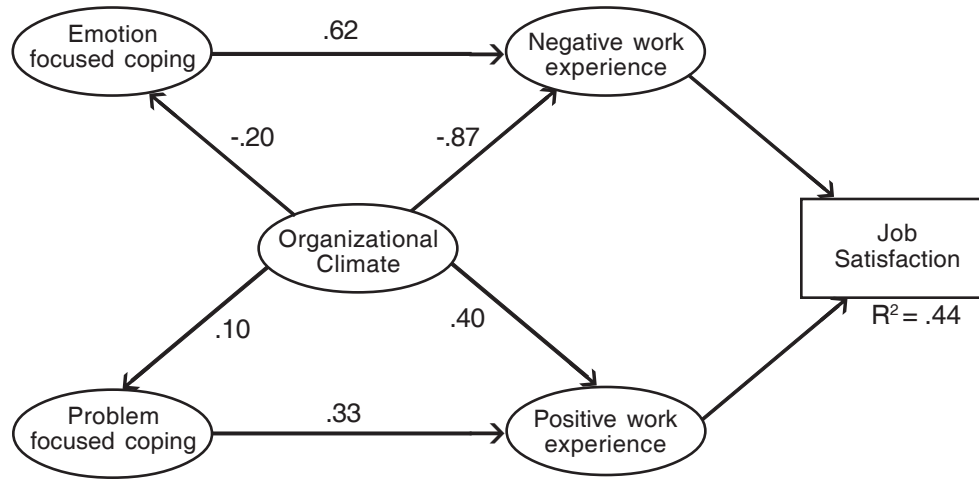
As outlined above, any theory used must meet certain criteria. First, it must encompass personal, team, and organizational levels of analysis. Secondly, it must contribute toward explaining how challenging experiences are rendered meaningful and manageable (by predicting change in satisfaction). One 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 in-

fluence 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.
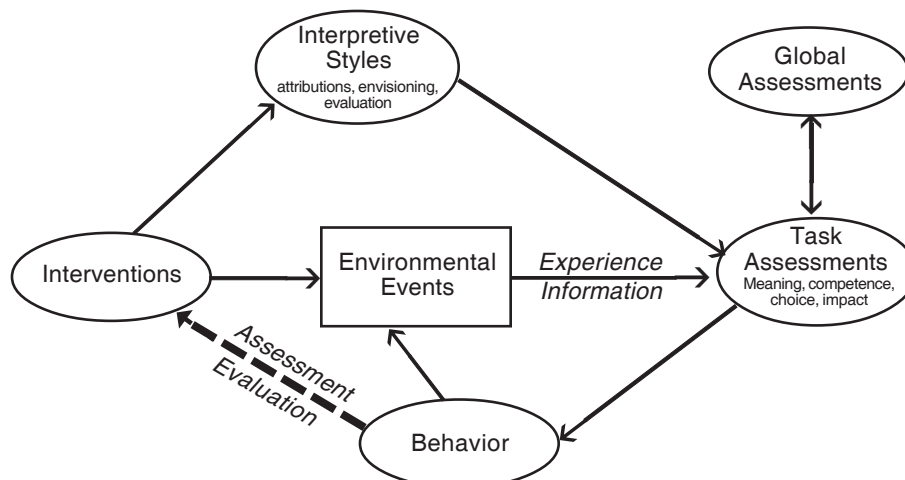
According to Thomas and Velthouse (1990), officers' task assessments comprise several components. The first component, meaningfulness (or meaning), describes the degree of congruence between the tasks performed and one's values, attitudes, and behaviors. Empowered individuals feel a sense of personal 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 per-

formance 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).
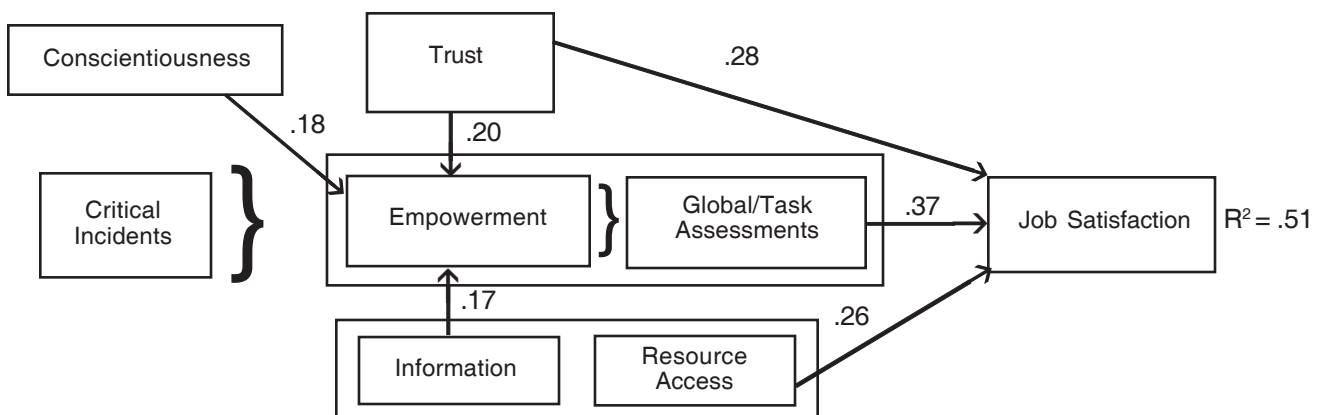
The model shown in Figure 3 provided good support for the role of empowerment as a predictor of resilience, accounting for some 51% of the variance in job satisfaction. It also supports the inclusion of empowerment in the Stress Shield model. However, before doing so, other social structural (e.g., senior 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 unpre-

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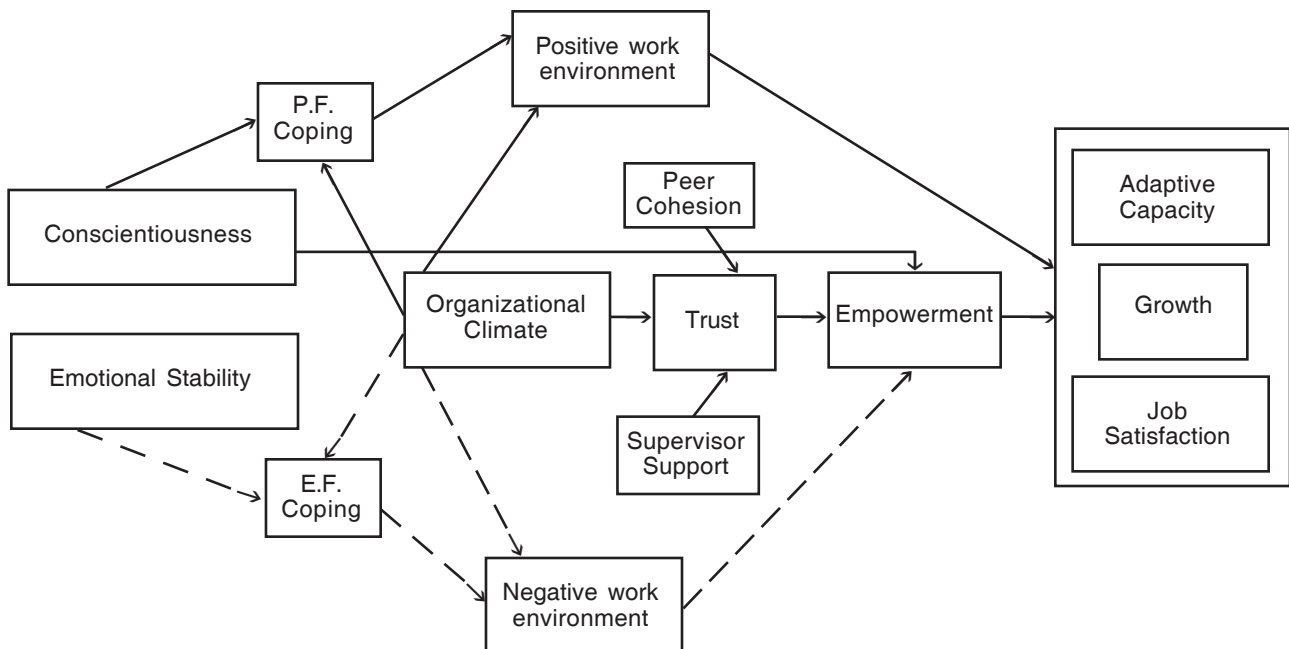
Schriesheim, 2000; Hart et al., 1993; Herriot et al., 1998; Perry, 1997; Quinn & Spreitzer, 1997). The fact that the proposed Stress Shield model is derived from empirically validated theories and includes variables that can be acted upon and influenced by police agencies to influence selection, training,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

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Stress and Resilience in Law Enforcement Training and Practice

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Abstract: *For law enforcement and emergency services professionals, stress and resilience are not academic topics or luxuries; they are essential to the physical and mental health, as well as to optimum job functioning. This article traces the history of the stress and resilience concepts in psychology, the military, and law enforcement, outlines the major risk and protective factors for traumatic stress responses, and presents a general psychophysiological model of stress and coping. The article next applies these concepts to the proactive fostering of mental toughness and resilience, using lessons learned from sports psychology and the mental conditioning literature. It then describes psychological debriefing, mental health counseling, and psychotherapeutic strategies for facilitating resilient recovery from critical incidents and traumatic events. Although directed mainly to law enforcement, the principles set out in this article may be productively applied to emergency medicine, public safety, military, and civilian trauma counseling settings. [International Journal of Emergency Mental Health, 2008, 10(2), pp. 109-124].*

Key words:law enforcement stress, mental toughness training, police psychology, police stress, stress management, stress resilience.

Most productive people would describe their jobs as stressful to some degree, and a certain degree of coping and resilience is useful to navigate the daily challenges of any high-demand occupation (Maddi & Khoshaba, 2005; Miller, 2008c). Yet, in only a few professions – police, firefighting, emergency medical services, disaster management, search and rescue, the military – does this stress literally involve making critical decisions in life-and-death situations for one-self and others. In these cases, stress and resilience are not academic topics or luxuries; they are essential to the physical and mental health, as well as to the optimum job functioning, of the personnel concerned. Accordingly, while the material in this article is directed mainly to the challenges of law enforcement work, it can be readily applied to all of the high-demand professions noted above.

History of Stress and Trauma in Psychology, the Military, and Law Enforcement

Historically, the pendulum of interest in stress syndromes has swung back and forth between military and civilian traumas (Evans, 1992; Pizarro, Silver, & Prouse, 2006; Rosen, 1975; Trimble, 1981; Wilson, 1994). During warfare, rulers and generals have always had an interest in knowing as much as possible about factors that might adversely affect their fighting forces. To this end, clinicians have been pressed into service to diagnose and treat soldiers with the aim of getting them back to the front lines as quickly as possible.

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The ancient Greeks and Romans wrote eloquently about the trials and travails that could afflict the warrior mind (Sherman, 2005) and these writings are echoed to the present day (Grossman & Christensen, 2007). One of the first modern conceptualizations of posttraumatic stress was put forth in 1678 by the army surgeon Hoffer, who described what he called *nostalgia*, defined as a deterioration in the physical and mental health of homesick soldiers. This was attributed to the formation of abnormally vivid images in the affected soldier's brain by battle-induced overexcitation of the "vital spirits."

The American Civil War introduced a new level of industrialized killing and, with it, a dramatic increase in reports of stress-related nervous ailments. Further advances in weapons technology during the First World War produced an unprecedented accumulation of horrific battlefield casualties from machine guns, poison gas, and long-range artillery. The latter led to the widely applied concept of shell shock, initially believed to be caused by the brain-concussive effects of exploding shells, but later understood to be a form of psychological incapacitation resulting from the trauma of battle. Indeed, the failure to confirm any definitive organic basis for many of these debilitating stress syndromes led to the eventual replacement of shell shock by the more mentalistic-sounding term, war neurosis (Southard, 1919).

Kardiner's (1941) long-term study of soldiers with war neuroses led him to conclude that severe war trauma produced a constriction of the ego that prevented these patients from adapting to and mastering life's subsequent challenges. Kardiner elaborated a conceptualization of trauma termed *physioneurosis* that is quite close to the modern concept of posttraumatic stress disorder (see below). The features of this syndrome included: persistence of the startle response, irritability and proneness to explosive behavior, fixation on the trauma, constriction of the personality, and a disturbed dream life, including vivid nightmares.

The experiences of the Second World War contributed surprisingly little to the development of new theories and treatments for wartime trauma, except for its renaming as battle fatigue. In fact, resistance to the very concept of battle fatigue, with its implications of mental weakness and lack of moral resolve, was widespread in both medical and military circles. There was a war on, plenty of good Joes were getting killed and wounded, and the army had little sympathy for the whinings of a few slackers and nervous nellies who couldn't buck up and pull their weight – an attitude that persists among today's military and civilian fighting forces.

However, it was becoming apparent that wartime psychological trauma could take place in circumstances other than the actual battlefield. In WWII, then Korea and Vietnam, and most recently in the Persian Gulf wars, clinicians began to learn about disabling stress syndromes associated with large-scale bombings of civilian populations, prisoner of war and concentration camps, "brainwashing" of POW's, civilian atrocities, terrorism, and the threat of wholesale nuclear annihilation. In 1980, traumatic stress syndromes were finally codified as an identifiable type of psychopathological syndrome – *posttraumatic stress disorder* (PTSD) – in the American Psychiatric Association's official Diagnostic and Statistical Manual of Mental Disorders (APA, 1980) and it remains there in the current edition (APA, 2000). Well known to trauma clinicians, the symptoms include heightened physiological arousal, alternating intrusive and numbing symptomatology, flashbacks and nightmares, and general restriction of life activities.

In law enforcement and emergency services, this became incorporated into the concept of critical incident stress (Mitchell & Everly, 1996, 2003), and some authorities have gone so far as to characterize police trauma as the psychological aftermath of "civilian combat" (Violanti, 1999).

A *critical incident* is defined as any event that has an unusually powerful, negative impact on personnel. In the present context, it is any event that a law enforcement officer may experience that is above and beyond the range of the ordinary stresses and hassles that come with the job. Major classes of critical incidents include: a line-of-duty death; serious injury to police personnel; a serious multiple-casualty incident such as a multiple school shooting or workplace violence incident; the suicide of a police officer; the traumatic death of children, especially where irresponsible or frankly malevolent adults were involved; an event with excessive media interest; or a victim who is a family member or otherwise well-known to one or more responding officers (Everly & Mitchell, 1997). Recent times have multiplied exponentially the range and scope of horrific law enforcement critical incidents to include acts of mass terror and destruction, involving multiple deaths of civilians, fellow officers, and other emergency personnel (Henry, 2004; Karlsson & Christianson, 2003; Miller, 1998b, 2006).

Risk and Resiliency Factors for Traumatic Stress Responses

Not everyone who experiences a traumatic critical incident develops the same degree of psychological disability; there is significant variability among individuals in terms of their degree of susceptibility and resilience to stressful events. While many individuals are able to resolve acute critical incident stress through the use of informal social support and other adaptive activities (Bowman, 1997, 1999; Carlier & Gersons, 1995; Carlier, Lamberts, & Gersons, 1997; Gentz, 1991), in other cases, critical incident stress that is not resolved adequately or treated appropriately in the first few days or weeks may evolve into a number of disabling psychological traumatic disability syndromes (Miller, 1998b, 2006, 2008a, 2008b).

Risk Factors for PTSD and Traumatic Disability

Risk factors for PTSD or other traumatic disability syndromes in law enforcement officers (Carlier, Lamberts, & Gersons, 1997; Paton, Smith, Violanti, & Eranen, 2000) may be:

- *Biological*, including genetic predisposition and inborn heightened physiological reactivity to stimuli.

- *Historical*, such as prior exposure to trauma or other coexisting adverse life circumstances.

- *Psychological*, including poor coping and problem-solving skills, learned helplessness, and a history of dysfunctional interpersonal relationships.

- *Environmental/contextual*, such as inadequate departmental or societal support.

Resiliency or Protective Factors for PTSD and Traumatic Disability

Resiliency or protective factors are traits, characteristics, and circumstances that make some people more resistant to traumatic stress effects (Bowman, 1997, 1999; Hoge, Austin, & Pollack, 2007; Miller, 1990, 1998a). As a general trait factor, features associated with resilience to adverse life events in children and adults (Bifulco, Brown, & Harris, 1987; Brewin, Andrews, & Valentine, 2000; Garmezy, 1993; Garmezy, Masten, & Tellegen, 1984; Luthar, 1991; Miller, 1990, 1998a; Rubenstein, Heeren, Houseman, Rubin, & Stechler, 1989; Rutter, 1985, 1987; Rutter, Tizard, Yule, Graham, & Whitman,

1976; Werner, 1989; Werner & Smith, 1982; Zimrin, 1986) include:

- Good cognitive skills and intelligence, especially verbal intelligence, and good verbal communication skills.

- Self-mastery, an internal locus of control, good problem-solving skills, and the ability to plan and anticipate consequences.

- An easy temperament, not overly-reactive emotional style, good sociability, and positive response to and from others.

- A warm, close relationship with at least one caring adult or mentor, other types of family and community ties and support systems, and a sense of social cohesion as being part of a larger group or community.

Indeed, on close inspection, these appear to be virtually the opposite of the traits of impulsivity, neuroticism, and poor social connection and support that characterize those most vulnerable to trauma.

Kobassa (1979a, 1979b; Kobassa, Maddi, & Cahn, 1982) introduced the concept of *hardiness*, which has been defined as a stable personality resource consisting of three psychological attitudes and cognitions (Maddi & Khoshaba, 1994):

- *Commitment* refers to an ability to turn events into something meaningful and important, something worth working for and seeing through to completion.

- Control refers to the belief that, with effort, individuals can influence the course of events around them, that they are not helpless, but effective influencers of their fate and the responses of others.

- *Challenge* refers to a belief that fulfillment in life results from the growth and wisdom gained from difficult or challenging experiences, a realistically confident but not reckless "bring-'em-on" attitude.

Similarly, Antonovsky (1979, 1987, 1990) has proposed a stress/health-mediating personality construct termed *sense of coherence*, or SOC, which is expressed in the form of three component orientations or beliefs:

- *Comprehensibility* refers to the events deriving from a person's internal and external environments in the course of living that are structured, predictable, and explicable. Things "make sense" and therefore seem less overwhelming.

- *Manageability* refers to the idea that the individual possesses the resources to meet the demands posed by the adverse events. The person feels realistically in control, not helpless.

- *Meaningfulness* means that the person conceptualizes the adversity as a challenge worthy of his or her investment and engagement. There is an intellectual and emotional satisfaction in tackling a tough problem and seeing it through to conclusion.

The higher a person's SOC, the better able he or she will be to clarify the nature of a particular stressor, select the resources appropriate to that specific situation, and be open to feedback that allows the adaptive modification of behavior when necessary.

Applying these concepts specifically to police officers, Paton And colleagues (2000) have delineated a core set of resiliency factors that enable officers to withstand and even prevail in the face of seemingly overwhelming trauma. These include:

- Superior training and skill development — what I have characterized as the ITTS ("It's The Training, Stupid") principle (Miller, 2006).

- A learning attitude toward the profession — I have referred to this as building a "culture of knowledge" (Miller, 2006).

- Higher intelligence and problem-solving ability.

- Good verbal and interpersonal skills.

- Adequate emotional control and adaptive coping mechanisms.

- A sense of optimism.

- The ability and willingness to seek help and support where necessary.

The practical application of these concepts occurs in their incorporation into intervention services for PTSD and other critical incident stress reactions in law enforcement and emergency services personnel (Miller, 1998b, 2006, 2008a). This will be elaborated further, below.

Psychophysiology of Stress and Resilience

We know that the mental and the physical are not separate categories: we think and feel with our brains and we react with our bodies. Accordingly, the study of stress has always been linked with the study of resilience, and a psychophysiological model that encompasses both, while not essential to clinical practice, does provide a scientific model to guide further theory and application.

The modern study of the psychophysiology of stress is generally regarded as beginning with Claude Bernard's (1865) concept of the *milieu internal*, a term he used to describe the self-regulating mechanism that every healthy organism utilizes to maintain a constant state of adaptive functioning. This equilibrium can be disrupted by stress or disease, but as long as the organism survives, it will endeavor to restore and maintain this optimal internal state.

In the early 20th century, Walter Cannon (1914, 1939) used the term *homeostasis* to refer to a state of biological equilibrium that could be derailed by stress, but that the organism typically attempts to re-regulate back into health. Cannon urged physicians to consider the effects of psychological stress on physiological functioning, ushering in the modern study of psychosomatic illness (Alexander, 1950; Weiner, 1977, 1992).

Probably the most well-known account of the stress response comes from the work of Hans Selye (1956, 1973, 1975) whose active research spanned the decades from the 1930s to the 1970s. Selye developed the model of the *general adaptation syndrome*, or GAS, which he believed to define the physiological response to stressors of almost every type – from infections and toxins to social stress and interpersonal power struggles. Selye's GAS is said to consist of three overlapping but distinct stages.

In the *stage of alarm*, the organism marshals its physiological resources to cope with the stressor. For Selye, this involves activation of the hypothalamo-pituitary-adrenal axis, resulting in the increased production of cortisol by the adrenal cortex. This hormone has an anti-inflammatory effect on the body and also has neuroactive and psychoactive effects on the brain. The alarm-stage stress response also mobilizes the sympathetic nervous system and increases secretion of adrenalin from the adrenal medulla.

In the *stage of resistance*, the body goes into a kind of extended overdrive, as all systems stay on high alert while the organism is coping with the stressor, which may be anything from a bad flu to a bad divorce. In the best case, the organism rallies and the crisis is eventually passed, with the individual becoming more resilient in the process. In this

case, Nietzsche (1969) is right: "Whatever doesn't kill me makes me stronger." Indeed, in some instances, adaptive responding to stress can lead to what has been called transcendent coping and posttraumatic growth (Calhoun & Tedeschi, 1999; Tedeschi & Calhoun, 1995, 2004; Tedeschi & Kilmer, 2005).

But no organism can stay on red alert forever. If the crisis is not resolved, at some point the individual reaches the *stage of exhaustion*, in which physiological reserves are finally depleted and the organism begins to deteriorate and may even die. Sorry, Nietzsche, but in this case, "Whatever doesn't kill me … can make me really, really sick – and I might die later, anyway."

More recent research has revealed that the stress response may be more graded and nuanced, depending on the individual, and in this may lie the psychophysiological basis for differences in coping and resilience. Dienstbier (1989) has used the term *toughness* to refer to a distinct psychophysiological reaction pattern that characterizes animals and humans who cope effectively with stress. Two main physiological systems underlie the toughness response.

The first involves a pathway from the brain's hypothalamus to the sympathetic branch of the autonomic nervous system, and from there to the adrenal medulla. The sympathetic nervous system, or SNS, is responsible for the heart-pounding, fight-or-flight response that mobilizes body and mind to deal with challenging situations. As part of this response, the adrenal gland releases its main hormone, adrenalin.

The second system involved in the toughness response also begins with the hypothalamus but acts through the pituitary gland which in turn stimulates the adrenal cortex to release cortisol – the chief stress hormone involved in Selye's triphasic GAS response, discussed above. Together, the pattern of SNS-adrenal medulla and pituitary-adrenal cortex responses to stressful events characterizes the nature of the toughness trait.

It is the flexibility and gradedness of response of these two interrelated systems that defines an individual's physiological resilience or toughness. In resiliently tough organisms – animal or human – the normal, everyday activity of the two systems is low and modulated; tough individuals are at relative ease under most ordinary circumstances and their physiological responses reflect this relative quiescence. But when faced with a stressful challenge or threat, the SNS-

adrenal medulla system springs into action quickly and efficiently, while the pituitary-adrenal cortex system remains relatively stable. As soon as the emergency is over, the adrenalin response returns quickly to normal, while the cortisol response stays low. The smoothness and efficiency of the physiological arousal pattern is what characterizes the psychophysiological toughness response – a response that has important aftereffects on the brain. Such a restrained reaction prevents depletion of catecholamines, important brain neurotransmitters that affect mood and motivation.

Not so with the "untough." The physiological reactions of less resilient individuals tend to be excessive and longer lasting, even in the face of everyday hassles. The result is more intense and disorganizing arousal, less effective coping, and faster depletion of brain catecholamines, which can lead to helplessness and depression. With each tribulation, major or minor, less resilient individuals tend to over-respond, their arousal levels overwhelming them and rendering them unable to do much about the current situation, leading to little confidence in their future ability to cope.

That's where the real psychological significance of psychophysiological toughness comes in. Humans can do one thing animals can't: we can reflect on our own thoughts, feelings, and actions, conceptualize our responses in terms of what kind of person that makes us, and thereby anticipate how we'll react to future challenges. Dienstbier (1989) points out that the toughness response – or its absence – interacts with a person's psychological appraisal of his or her own ability to cope with challenge. This in turn contributes to the person's self-image as an effective master of adversity or a helpless reactor –a self-assessment that influences later psychophysiological reactions to stress.

This, then, is the psychophysiological rationale of most "mental conditioning" or "mental toughness training" programs for law enforcement, emergency services, and the military (Asken, 1993; Blum, 2000; Doss, 2007; Duran, 1999; Grossman & Christensen, 2007; Miller, 2008a): by learning to control one's perceptions, feelings, thoughts, and reactions in advance, through progressive practice and rehearsal, and in combination with proper operational training, the individual can hopefully develop a core of resilient toughness – a kind of flexible psychological armor – that will enable the person to face any challenge with improved confidence and effectiveness. Although individuals differ naturally in their innate resilience, just as they do in physical strength, virtually any service member can reinforce his or her psychological armor

and ramp up their toughness skills by appropriate training and practice. Additionally, there are effective reslience-based intervention strategies that peers and clinicians can apply to the treatment of service members following their exposure to a potentially traumatic critical incident.

Toughness on the Field: Mental Conditioning in Competitive Sports

From the time of ancient Sparta, when athletic competition served as actual preparation for warfare, sports have always represented a form of ritualized combat (Sherman, 2005) – that's why we take it so seriously. Accordingly, much of the research and practical advice on mental toughness in the public safety and emergency services professions comes from the domain of sports psychology (Bull, Shambrook, James, & Brooks, 2005; Goldberg, 1998; Gould, Hodge, Peterson, & Petlinchkoff, 1987; Jones, Hanton, & Connaughton, 2002; Loehr, 1995; Thelwell, Weston, & Greenlees, 2005). In reviewing this literature, I have been able to distill the diverse components and conceptual constructs of this field down to four primary qualities that characterize resilience and mental toughness in sports that, in turn, can be applied to the practical task of inculcating stress-resistance in law enforcement, emergency services, and military personnel (Miller, 2008a). These are confidence, motivation, focus, and resilience.

Confidence. A professional athlete puts him- or herself on the line with every game or competition. Excellent performers don't just do their craft, the are their craft. This orientation is probably familiar to those police officers, doctors, soldiers, performance artists, and others who view their occupations as more of a calling than a job (Hays & Brown, 2004). This takes confidence. Confident athletes have an unshakable belief in their own abilities and, more pointedly, that these abilities are up to the task of beating their opponent. They thrive on the pressure of competition because they possess the skills and temperament to cope adaptively with the stresses and anxieties of competition. Their resoluteness cannot be shaken by the performance or intimidation of the other players. Confident athletes are able to overcome their inevitable self-doubts by a variety of intuitive and learned coping mechanisms. Their confidence is stable and unbreakable precisely because it is based on a track record of honest appraisal, real accomplishment, and continual training that allows them to draw strength from their own physical conditioning which, in turn, generates further confidence, in a positive cycle (Bandura, 1977, 1986; Doss, 2006). And the development of positive performance expectations is a crucial factor in preparing personnel to operate under high-demand conditions (Locke, Frederick, Le, & Bubko, 1984; Salas, Driskell, & Hughes, 1996). In short, attitude does matter.

Motivation. While confidence sustains the athlete's performance, motivation spurs it forward. Confidence and motivation are reciprocal and mutually reinforcing: motivation impels performance which builds confidence which further increases motivation and so on. Motivated athletes have an insatiable desire to succeed and excel, a desire that comes from within and cannot be compelled or coerced. They strive to make the most of their abilities, to self-actualize (Maslow, 1968). They are willing to take risks and embrace new challenges and the pressure of competition only heightens their drive to succeed (Hays & Brown, 2004). They can tie short-term performance to long-term goals in order to sustain their motivation over bad stretches because they are committed to their craft for the long haul. Their motivation produces a powerful work ethic that impels them to "go the extra mile" in training and practice; they never coast, they're always moving forward. They compete with themselves as well as with others. As with confidence, motivation must be based on reality, and these athletes use their stumbles and failures as learning experiences to do better next time.

Focus. If motivation is the fuel that drives the performance engine, focus is the guidance system that allows the engine to stay on track toward the athlete's goals. As used here, the term focus has two meanings: focus on the moment-to-moment, here-and-now aspects of a particular training exercise or performance, and a more long-term, event-spanning focus on career goals. Being fully focused on a particular performance task enables the athlete to persevere in the face of external distractions. Focus is also internal, and skilled athletes have learned to monitor their inner physical and mental states, to be able to run a self-system check as needed, both to assess ongoing performance during a competition and to check themselves between performances. Focus also includes clarity of thinking, and many athletes will describe states of almost supernatural mental sharpness during intense competitions. This comes about through intensive and protracted training, so that when critical situations arise, the athlete is not overwhelmed by anxiety and complexity, but can switch into a smooth, efficient performance mode as needed (cf. the psychophysiological toughness response discussed earlier, Dienstbier, 1989).

Resilience. As used here, the term resilience describes the bounce-back that enables skilled athletes and other professionals to endure and prevail over physical injuries, mental shocks, and performance failures without burning out or melting down. Resilient athletes don't fold under pressure. They adapt to extreme conditions by using their training and experience to devise and implement moment-to-moment corrections of their performance in response to rapidly-changing circumstances. Even when knocked down, they quickly regain equilibrium and self-control without being overwhelmed. They can endure physical pain and emotional distress and maintain technique and sustained effort by what seems to be sheer force of will, but which is really a tough resilience that grows out of confidence and determination borne of training, perseverance, and expertise.

The core components of mental toughness are reciprocal and interactive. Resilience partly depends on confidence which, in turn, is based on a track record of accomplishment. Specifically with law enforcement, Doss (2006) notes that when an officer's confidence is degraded because of poor training or a negative outcome despite utilizing techniques he thought would work, this may have a deteriorative effect on subsequent performance and the recovery process may be painfully slow. This explains the seemingly obsessive nature of training that characterizes all high-performance fields. Proper training not only helps build skill and proficiency itself, it also helps inoculate the professional against corrosive self-doubt and feelings of failure in the case of a bad outcome (Miller, 2006, 2008a).

Fostering Recovery and Resilience Following traumatic Events

While mental toughness training and psychological conditioning techniques can serve to inure and inoculate service members to many kinds of potentially traumatizing stressful events, there will always be some critical incidents so extreme that they overwhelm or attenuate the coping mechanisms of even some of the most resiliently tough personnel. In other cases, a particular event may have specific meaning to a particular officer and thus have a much greater impact than it would on someone else. In all these cases, we need additional strategies we can apply after the fact for maximizing resilient recovery and return to normal functioning in these service members.

Critical Incident Stress Debriefing

Well-known to emergency response clinicians, the intervention of critical incident stress debriefing (CISD) will only be summarized here. CISD is a structured group intervention designed to promote the emotional processing of traumatic events through the ventilation and normalization of reactions, as well as to facilitate preparation for possible future crisis experiences. CISD is one component of an integrated, comprehensive crisis intervention program spanning the critical incident continuum from pre-crisis, to crisis, to post-crisis phases, and subsumed under the heading of critical incident stress management (CISM), which has been adopted and modified for law enforcement and emergency services departments throughout the United States, Great Britain, Europe, Australia, and other parts of the world (Dyregrov, 1989, 1997; Everly & Mitchell, 1997; Everly, Flannery, & Mitchell, 2000; Mitchell & Everly, 1996, 2003).

The full CISM program includes: individual and organizational pre-crisis preparation; large-scale demobilization procedures following mass disasters; on-scene, one-on-one supportive counseling for acute, individual crisis reactions; defusings, which represent a shorter, compressed stress debriefing protocol for small groups under acute stress; critical incident stress debriefing, described more extensively below; family crisis intervention and supportive counseling; and referral for follow-up mental health services as needed (Everly & Mitchell, 1997; Mitchell & Everly, 1996, 2003).

A CISD debriefing is a peer-led, clinician-guided process that takes place within 24 to 72 hours of the critical incident and consists of a single group meeting of approximately 6-20 personnel that lasts about two to three hours. The formal CISD process consists of seven key phases, designed to assist psychological integration, beginning with more objective and descriptive levels of processing, progressing to the more personal and emotional, and back to the educative and integrative levels, focusing on both cognitive and emotional mastery of the traumatic event. These are introduction, fact, thought, reaction, symptom, education, and reentry phases. Throughout the process, reactions to critical incident stress are conceptualized as normal responses to an abnormal situation and recovery and return to duty are emphasized, although the possible presence of residual symptoms is acknowledged.

Salutogenic Debriefing

One group of practitioners (Dunning, 1999; Paton & Smith, 1999; Paton et al., 2000; Stuhlmiller & Dunning, 2000; Violanti, 2000) has advocated a radical shift in the theory and practice of critical incident debriefing. Their criticism of the standard CISD model views it as pathologing stress reactions and offering debriefing as a quick-fix, one-size-fits-all package of therapeutic intervention. These authors propose an alternative salutogenic debriefing model that views critical incident reactions as opportunities for adaptive coping and personal growth.

Consistent with the concepts of resilience and posttraumatic growth, these authors propose that interventions for critical incidents should not foster the learned helplessness of a traumatized victim mentality but should encourage a sense of competence, confidence, resilience, hardiness, and learned resourcefulness (Almedom, 2005; Antonovsky, 1987; Higgins, 1994; Kobassa et al., 1982; Tedeschi & Calhoun, 1995; Tedeschi & Kilmer, 2005).

In fairness, the purpose of all traumatic stress interventions, including CISD, is to reduce hopelessness and helplessness and to foster adaptive and resilient coping in the face of a potentially overwhelming event. But going too far in the other direction and adopting a "Clarence the Angel" approach to intervention (Miller, 1998b) may only serve to put too much pressure on distressed officers who understandably may not be able to bring themselves to the point of turning a horrific episode into a personal growth experience, and may therefore feel like they're failures if they can't meet this excessively high bar of recovery and growth (see below). As always, clinicians and law enforcement administrators alike have to use their professional judgment.

More broadly, most authorities would endorse the idea that CISD, or any other systemized approach to intervention, should supplement and enhance – not replace – each individual's natural coping resources (McNally, Bryant, & Ehlers, 2003; Sheehan, Everly, & Langlieb, 2004). In other words, all psychological services for law enforcement should be in the direction of empowering officers to deal with challenges as independently and effectively as possible (Miller, 2006, 2008a). While many critical incidents will not require any special intervention, and while the majority of those that do will be well served by a CISD approach, it is the responsibility of departmental administrators, and the mental health professionals who advise them, to ensure that debriefing

modalities are used responsibly and that other forms of clinically appropriate psychotherapeutic intervention are available to those who need them. CISD, like all successful treatment modalities, must be a living, evolving organism. Continued research and clinical ingenuity will hopefully further texturize and expand the stress debriefing approach into new and different applications (Mitchell & Levenson, 2006).

Mental Health Services for Recovery and Resilience

For some traumatized service members, a CISD debriefing may not suffice and more extensive, intensive, and individualized approaches to fostering recovery may be required, involving the services of mental health professionals. Unfortunately, sometimes for good reason (Max, 2000), police officers have traditionally shunned these services, often perceiving its practitioners as ferrets and shills who are out to dig up dirt that their departments can use against them. Other cops may fear having their "head shrunk," harboring a notion of the psychotherapy process as akin to brainwashing, a humiliating and emasculating experience in which they are forced to lie on a couch and sob about their inner child. Less dramatically and more commonly, the idea of needing any kind of "mental help" implies weakness, cowardice, and lack of ability to do the job. In the environment of many departments, some officers realistically fear censure, stigmatization, ridicule, thwarted career advancement, and alienation from colleagues if they are perceived as the type who "folds under pressure." Still others in the department who may have something to hide may fear a colleague "spilling his guts" to the clinician and thereby blowing the malfeasor's cover (Miller, 1998b, 2006).

But the goal of law enforcement psychological services following a critical incident should always be to make officers stronger, not weaker. Sometimes a broken bone that has begun to heal crookedly has to be re-broken and reset properly for the individual to be able to walk normally again and, while the re-breaking may hurt, the pain is temporary and the effect is to restore and re-strengthen the limb. In the same way, an officer who is responding to critical incident stress with an ossified, malformed defensive mindset that's impeding his or her job performance and personal life may need to have those defenses challenged in a supportive atmosphere, so he or she can benefit from a healthy resetting of his mental state to deal with life more adaptively and courageously. He or she needs to regain the psychological strength to learn to

walk the path of life again (Miller, 2006; Rudofossi, 2007; Toch, 2002).

Therapeutic Strategies for Recovery and Resilience

Psychotherapeutic strategies for law enforcement officers have been covered in detail elsewhere (Miller, 2006; 2008a). For purposes of the present discussion, the effectiveness of any therapeutic strategy in fostering resilient recovery will be determined by the timeliness, tone, style, and intent of the intervention. Effective psychological interventions with law enforcement officers and other service personnel share the following common elements (Blau, 1994; Fullerton, McCarroll, Ursano, & Wright, 1992; Wester & Lyubelsky, 2005).

- *Briefness*. Utilize only as much therapeutic contact as necessary to address the present problem. The officer does not want to become a "professional patient."

- *Limited focus*. Related to the above, the goal is not to solve all the officer's problems, but to assist in restabilization from the critical incident and provide stress-inoculation for future incidents.

- *Directness*. Therapeutic efforts are directed to resolve the current conflict or problem to reach a satisfactory short-term conclusion, while planning for the future if necessary.

In light of Violanti's (1999) conceptualization of police work as "civilian combat," it is interesting that a very similar intervention model has recently been articulated by military psychologist and U.S. Army Captain Bret Moore for dealing with soldiers experiencing combat stress (Munsey, 2006). The program goes under the acronym, BICEPS, which stands for

- *Brevity*. Treatment is short, addressing the problem at hand.

- *Immediacy.* Intervention takes place quickly, before symptoms worsen.

- *Centrality*. Psychological treatment is set apart from medical facilities, as a way to reduce the stigma soldiers might feel about seeking mental health services (although it could be argued that putting mental health treatment in a special category might make some soldiers feel alienated from their colleagues who've suffered "real" injuries; accordingly, clinicians should use their judgment).

- *Expectancy*. A soldier experiencing problems with combat stress is expected to return to duty.

- *Proximity*. Soldiers are treated as close to their units as possible and are not evacuated from the area of operations.

- *Simplicity*. Besides therapy, the basics of a good meal, hot shower, and a comfortable place to sleep ensure a soldier's basic physical needs are met.

Utilizing Cognitive Defenses for Resilience

In psychology, defense mechanisms are the mental strategems the mind uses to protect itself from unpleasant thoughts, feelings, impulses, and memories. While the normal use of such defenses enables the average person to avoid conflict and ambiguity and maintain some consistency to their personality and belief system, most psychologists would agree that an overuse of defenses to wall off too much unpleasant thought and feeling leads to a rigid and dysfunctional approach to coping with life. Accordingly, much of the ordinary psychotherapeutic process involves carefully helping the patient to relinquish pathological defenses so that he or she can learn to deal with internal conflicts more constructively.

However, in the face of immediately traumatizing critical incidents, the last thing the affected person needs is to have his or her defenses stripped away. If you sustain a broken leg on the battlefield, the medic binds and braces the limb as best he can and helps you quickly hobble out of the danger zone, reserving more extensive medical treatment for a later, safer time and place. Similarly, for an acute psychological trauma, the proper utilization of psychological defenses can serve as an important psychological splint that enables the person to function in the immediate posttraumatic aftermath and eventually be able to productively resolve and integrate the traumatic experience when the luxury of therapeutic time can be afforded (Janik, 1991).

Indeed, whether in their regular daily work or following critical incidents, law enforcement and public safety personnel usually need little help in applying defense mechanisms on their own. Examples (Durham, McCammon, & Allison, 1985; Henry, 2004; Taylor, Wood, & Lechtman, 1983) include:

- Denial. "Put it out of my mind; focus on other things; avoid situations or people who remind me of it."

- Rationalization. "I had no choice; things happens for

a reason; it could have been worse; other people have it worse; most people would react the way I'm doing."

- Displacement/projection. "It was Command's fault for issuing such a stupid order; I didn't have the right backup; they're all trying to blame me for everything."

- Refocus on positive attributes. "Hey, this was just a fluke – I'm usually a great marksman; I'm not gonna let this jam me up."

- Refocus on positive behaviors. "Okay, I'm gonna get more training, increase my knowledge and skill so I'll never be caught with my pants down like this again."

Janik (1991) proposes that, in the short term, clinicians actively support and bolster psychological defenses that temporarily enable the officer to continue functioning. Just as a physical crutch is an essential part of orthopedic rehabilitation when the leg-injured patient is learning to walk again, a psychological crutch is perfectly adaptive and productive if it enables the officer to get back on his emotional two feet as soon as possible after a traumatic critical incident. Only later, when he or she is making the bumpy transition back to normal life, are potentially maladaptive defenses revisited as possible impediments to progress.

And just as some orthopedic patients may always need one or another kind of assistive walking device, like a special shoe or a cane, some degree of psychological defensiveness may persist in officers so they can otherwise productively pursue their work and life tasks. Indeed, rare among us is the person who is completely defense-free. Only when defenses are used inappropriately and for too long – past the point where we should be walking on our own psychological two feet – do they constitute a "crutch" in the pejorative sense.

Survival Resource Training

As noted earlier, a recently evolving trend in trauma psychotherapy emphasizes the importance of accessing and bolstering the patient's natural powers of resilience, and the constructive marshalling of strength and resistance to stress and disability (Calhoun & Tedeschi, 1999; Dunning, 1999; Stuhlmiller & Dunning, 2000; Tedeschi & Calhoun 1995; Tedeschi & Kilmer, 2005; Violanti, 2000). In this vein, Roger Solomon (1988, 1991, 1995) has been ahead of the curve in capitalizing on the idea that constructive denial of vulner-

ability and mortality can be an adaptive response for law enforcement officers coping with ongoing critical incidents and their immediate aftermath.

Solomon (1988, 1991) points out that, following critical incidents characterized by fear, danger, injury, or death, officers often dwell on their mistakes and overlook what they did right in terms of coping with their emotions and getting the job done. Thus, being realistically reminded by the clinician of their own adaptive coping efforts may prove especially empowering because it draws upon strengths that came from the officer him- or herself. Termed survival resource training, this intervention allows officers to utilize the fear response to tap into a state of controlled strength, increased awareness, confidence, and clarity of mind – many of the features, noted earlier, that characterize high-performance athletes.

In this technique, the clinician encourages the officer to view the critical incident from a detached, objective point of view, "like you were watching a movie of yourself," and to go through the incident "frame-by-frame." At the point where he imagines himself fully engaging in this activity (negotiating with a hostage-taker, arresting a dangerous felon, taking cover, firing his weapon, etc.), the officer is instructed to "focus on the part of you enabling you to respond."

In most cases, the survival resource training procedure leads to a mental reframe characterized by controlled strength, heightened awareness, confidence, and mental clarity, as the officer mentally zooms in on his capability to respond, instead of focusing on the immobilizing fear, perceptions of weakness, loss of control, or perceptual distortions. Often, this results in the officer's being reminded of how he put his fear on hold and rose to the occasion in order to get the job done. The reframing thus focuses on resiliency instead of vulnerability, strength instead of weakness.

In addition to processing past critical incidents, realistic feelings of efficacy and competence can also shade over into future incidents, as officers have reported increased confidence and ability to handle subsequent calls, such as arrests, shooting incidents, domestic disturbances, and traffic chases. In addition, officers have felt more confident in other non-emergency but stressful situations, such as court testimony, and personal matters, such as resolving family conflicts (Solomon, 1988, 1991, 1995). It is especially gratifying to clinicians and officers alike when their mutual efforts can turn vicious cycles of demoralization and despair into posi-

tive cycles of confidence and optimism. Indeed, this is the essence of the resilience model of psychotherapy.

Finding Meaning In Adversity: "Existential Toughness"

As useful as salutogenic and growth-oriented therapeutic approaches may sometimes be, trying to force-feed a "positive meaning" or "life lesson" from a noxious experience can sometimes be counterproductive: some bad things in life just plain suck and no amount of philosophical sugar-coating is going to make a turdball taste like a jelly donut. But human beings are meaning-making creatures, and people will naturally grope to find reasons or messages hidden in even the most grotesque catastrophes. When this comes from the officer him- or herself, it must be respected and nurtured in the psychotherapy process because a consolidation of one's worldview is, in itself, a resiliency-enhancing process (Miller, 1998b).

In general, existential treatment strategies that focus on a quest for meaning, rather than just alleviation of symptoms, may productively channel the worldview conflicts generated by the traumatic event. This may include helping the officer to formulate an acceptable "survivor mission" or "professional purpose" (Henry, 2004; Rudofossi, 2007; Shalev et al., 1993). In the best cases, the rift and subsequent reintegration of the personality may lead to an expanded self-concept, a renewed sense of purpose, and a new level of psychological, spiritual, and career growth (Bonanno, 2005; Calhoun & Tedeschi, 1999; Luthar, Cicchetti, & Becker, 2000; Tedeschi & Calhoun, 1995, 2004; Tedeschi & Kilmer, 2005). Of course, not all traumatized service members will be able to achieve this successful reintegration of their ordeal and many will struggle with at least some vestige of emotional injury for a long time, perhaps for life (Everstine & Everstine, 1993; Matsakis, 1994; McCann & Pearlman, 1990; Miller, 1998b).

Therefore, my main caution about these transformational therapeutic conceptualizations is that they be presented as an opportunity, not an obligation. The extraction of meaning from adversity is something that must ultimately come from the officer him- or herself, not be foisted upon him or her by the clinician. Such existential "forced conversions" are often motivated by a need to reinforce the clinician's own meaning system, or they may be part of what I call a therapeutic "Clarence-the-Angel fantasy" (Miller, 1998b), wherein the enlightened clinician swoops down and, by dint of the therapist's brilliantly insightful ministrations, rescues the hapless patient from his or her darkest hour.

Realistically, as mental health clinicians, we can hardly expect all or even most of our traumatized patients to miraculously transform their tragedy and acquire a fresh, revitalized, George Bailyean outlook on life – how many of us would respond that well? But, as noted above, human beings do crave meaning (Yalom, 1980) and if a philosophical or religious orientation can nourish the officer in his or her journey back to the land of the living, then the therapeutic role must sometimes stretch to include some measure of guidance in affairs of the spirit.

Organizational and Departmental Support

Not all interventions involve psychotherapy or debriefings. Following a department-wide critical incident, such as a line-of-duty death, serial homicide investigation, or mass casualty rescue and recovery operation, the departmental psychologist or consulting mental health professional can advise and guide law enforcement agencies in encouraging and implementing several organizational response measures (Alexander, 1993; Alexander & Walker, 1994; Alexander & Wells, 1991; DeAngelis, 1995; Fullerton et al., 1992; Palmer, 1983). Many of these strategies are proactively applicable as part of training before a critical incident occurs. Others apply even when there is no specific incident, but just involve cops in a jam seeking support and relief. Some specific organizational and leadership measures that can promote recovery and resilience include those that follow.

- Encourage mutual support among peers and supervisors. The former typically occurs anyway; the latter may need some explicit reinforcement. Although not typically team workers like firefighters or paramedics, police officers frequently work as partners and understand that some degree of shared decision-making and mutual reassurance can enhance effective performance on the job, as well as helping to deal with tragedy.

- Utilize humor as a coping mechanism to facilitate emotional insulation and group bonding. The first forestalls excessive identification with victims, the second encourages mutual group support via a shared language. Of course, as noted earlier, mental health cli-

nicians and departmental supervisors need to carefully monitor the line between adaptive humor that encourages healing and gratuitous nastiness that only serves to entrench cynicism and despair.

- Make use of appropriate rituals that give meaning and dignity to an otherwise existentially disorienting experience. This includes not only religious rites related to mourning, but such respectful protocols as a military-style honor guard to attend bodies before disposition, and the formal acknowledgement of actions above and beyond the call of duty.

- Make productive use of grief leadership. This involves the commanding officer demonstrating by example that it's okay to express grief and mourn the death of fallen comrades or civilians, and that the dignified expression of one's feelings about the tragedy will be supported, not denigrated. Indeed, this healthy combination of masterful task-orientation and validated expression of legitimate grief has largely characterized the response of rescue and recovery personnel at the New York World Trade Center and other mass-casualty disaster sites (Henry, 2004; Regehr & Bober, 2004).

- Show respect for psychological issues and psychological services. If the departmental brass don't believe that encouraging the appropriate utilization of psychological services is a valid way of expressing their concern and support for their troops' welfare, then the rank and file won't buy it, either. Psychological referrals should be destigmatized and supported as a health and safety measure, the same as with medical referrals and general fitness maintenance.

In summary, law enforcement officers and other service members who cope resiliently with critical incidents prepare their minds and bodies proactively through rigorous training, and avail themselves of legitimate support services during and after a critical incident. In this way, they become tough, act tough, and stay tough, while retaining the mental agility, flexibility, resiliency, and humanity that are necessary for top-notch law enforcement and emergency services work.

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New Editor Appointed

The International Journal of Emergency Mental Health is pleased to announce that Laurence Miller, Ph.D. has been appointed as its new Editor for a five-year term (January, 2009 to December, 2014). Dr. Miller's tenure will commence with Volume 11 of the Journal. He will begin receiving submissions of manuscripts from contributing authors as of July, 2008. The term of the Journal's current Editor, Richard L. Levenson, Jr., Psy.D., CTS, will expire with the last issue of Volume 10. He will assume a position as an Associate Editor with the Journal.

Law Enforcement Response to Terrorism: The Role of the Resilient Police Organization

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Abstract: *Since September 11 the environment of contemporary policing has changed substantially. At the same time, it has become increasingly evident that police officers often demonstrate considerable resilience in the face of the critical incidents they face. This paper examines how resilience can be developed to promote officer well-being and performance when responding to acts of terrorism. It argues that to achieve this objective, it is necessary to expand the conceptualization of resilience in two important ways. First, terrorism has created an operating environment that differs qualitatively from that in which police agencies had been used to operating. Second, the agency itself plays a more important role in developing resilience than has hitherto been acknowledged. These new perspectives are integrated to argue that, when developing police resilience, the focus should be on recognizing the reality of contemporary policing and understanding how agencies and officers can learn from their experience of challenging events to develop in ways that facilitate their capacity to adapt and cope with challenges posed by their response to acts of terrorism. The ways in which agency and officer learning can occur and how the lessons learned can be sustained in the form of enhanced resilience are discussed. [International Journal of Emergency Mental Health, 2008, 10(2), pp. 125-136].*

Key words: *police, terrorism, resiliency, trauma, organizations*

Since September 11, the environment of policing has changed irrevocably, with terrorism being an ever-present hazard for police agencies. Even as acts of terrorism make a substantial contribution to increasing traumatic stress risk, growing evidence that critical incidents, including those of terrorist origin, can be resolved in ways characterize by increased resilience and personal and professional growth (North et al., 2002) highlights the importance of identifying the factors predictive of positive outcomes and using this

knowledge to develop resilience. Although the discussion of resilience typically has been focused at the level of the individual officer, this paper examines it from the perspective of how interaction between police agencies and officers influences posttraumatic stress risk, thus providing a context for understanding and managing resilience.

Officers respond to incidents as members of law enforcement agencies in which organizational culture influences their thoughts and actions and represents the context in which challenging (critical incident) experiences (e.g., through interaction with colleagues, senior officers, and organizational procedures) are interpreted (Gist & Woodall, 2000; Mitroff & Anagnos, 2001; Paton, et al., 1999; Paton, Violanti, & Smith, 2003; Weick, 1995). Agency culture, as a result of its prescrib-

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ing officer induction and socialization, organizational structure, operating and reporting procedures, performance expectations, and training, influences how officers think about their role and their work as well as how they impose meaning on the incidents they attend and on the outcomes experienced as a result of responding to critical incidents (Gist & Woodall; Paton, 1994; Weick). Organizational culture thus exercises an important influence on the schema or interpretive framework that officers use to plan and organize their response to any incident. It is the relationship between this schema and officers' well-being and performance effectiveness that lends to the agency-officer relationship a capacity to inform understanding of resilience.

An event becomes critical when incident characteristics fall outside of the expected operational or response parameters and officers' mental models (reflecting assumptions/expectations derived from socialization, routine training, experience, and organizational practices) are unable to make sense of such novel, challenging events (Janoff-Bulman, 1992; Paton, 1994; Tedeschi & Calhoun, 2003). However, when examining resilience, events that fall outside the parameters of mental models can no longer automatically be assumed to lead to pathological outcomes (Paton, 2006). Rather, critical incidents (including acts of terrorism) that challenge existing interpretive frameworks can be conceptualized as catalysts for change (North et al., 2002; Paton & Burke, 2007). In this context, the focus should be on understanding how agencies and officers can learn from their experience of challenging events and develop a more sophisticated, interpretive schema that facilitates their capacity to adapt and cope with future challenges. This makes it important to consider how learning takes place and how the lessons learned are sustained in the form of enhanced resilience.

Given the role of the agency in the development and maintenance of a schema, any sustained benefit will be strongly influenced by the degree to which new insights, perspectives, knowledge, and relationships that emerge through operational experience become embedded in the culture of the organization in ways that enhance future adaptive capacity. Thus, it is argued here that developing a comprehensive understanding of posttrauma outcomes requires analysis at the level of both agency and officer, with the interaction between them playing a pivotal role in understanding and managing resilience.

An important tenet of this paper is the need to give police agencies a more prominent place in the process of developing resilience than has hitherto been the norm in the literature of traumatic stress. The first argument for including an agency perspective in planning for resilience can be traced to the recognition that terrorism has resulted in significant changes to the environment within which police agencies and their officers work. This environment has not only become more challenging, it is also more dynamic than in the past. It is just this kind of circumstance that prompted Berkes, Colding, and Folke (2003) to argue for organizations to become resilient and to develop their capacity to adapt to an uncertain and riskier future. This paper first discusses the nature of the environmental change that an age of terrorism has introduced and its implications for organizational change. The second part of the paper discusses how the interaction between agency and officer influences stress risk and strategies for increasing resilience.

Acts of Terrorism and the Environment of Contemporary Policing

Despite a long history of responding effectively to emergency events, the nature of terrorist events presents police agencies with a unique set of problems (Carafano, 2003). As Carafano points out, events such mass traffic accidents, plane crashes, and even mass shootings present a relatively more coherent response environment than do terrorist events. For example, the former incidents have a clear starting point, tend to be localized, have a finite duration, present a relatively predictable set of demands, and allow established procedures to be employed to manage the response. However, greater unpredictability regarding the nature and complexity (e.g., terrorists devote time to developing and implementing new ways to deliberately create maximum harm and fear), location, timing, and duration of acts of terrorism has created new challenges for agencies and officers. With terrorist events, the agency context is also rendered more complex by the need to operate under different legislative requirements and in more complex multi-organizational and multi-jurisdictional contexts. Agencies also have to plan to accommodate the implications of hazards that can be more complex and enduring than those that typify normal incidents. For example, a biohazard attack (e.g., pollution of water supplies, release of a biohazard such as smallpox) may have commenced prior to its existence being identified; present diffuse beginnings and ends; be difficult to detect by those first on the scene; spread in ways dictated by local conditions (some of which can change over time) such as building density, topography, and

prevailing weather; create relatively prolonged periods of impact; and result in a complex social environment characterized by confusion and uncertainty in the general population (Department of Homeland Security, 2003; Fisher, 2000; Lasker, 2004). Thus, in the case of terrorist actions, the operating environment in which agencies plan their response and how they will deploy their officers is qualitatively different from that in which the prevailing organizational culture has developed. A similar argument can be made regarding the experience of those who respond, with officers facing challenges that differ qualitatively from those they are likely to confront under normal circumstances.

Although police officers face danger on a daily basis (e.g., confrontation with armed offenders), terrorism can change the nature of the risk they face. With regard to sources of risk, exposure to hazardous agents (e.g., highly toxic chemical, biological, or radiation hazards) that are difficult to detect and can create significant acute and chronic health problems, as well as generate consequences that may persist for long periods of time, contribute substantially to stress risk. The need for protective clothing contributes to stress risk directly (e.g., its use is necessitated by the use of biological or chemical contaminants) and indirectly (e.g., increased heat stress from wearing protective clothing and from additional problems with operating equipment (Carafano, 2003)). Increased danger also emanates from the fact that, when responding to terror events, the scene could become an intentionally hostile environment for officers (Dept. of Homeland Security, 2003; FEMA, 2004; Maniscalco & Christen, 2002). Officers must attend events knowing that they themselves may be deliberately targeted and that the perpetrators are willing to die in the pursuit of their goal of inflicting the maximum level of loss and fear when targeting ordinary citizens. The latter point introduces a more insidious aspect of the environment of terrorism: the creation of a climate of fear.

Terrorist events possess a unique capacity to create a sustained climate of fear. Beliefs about vulnerability have been changed by the fact that the schemas that underpin how people interpret and comprehend complex experiences have been rendered less applicable by the growing threat of terrorism (Daw, 2001). Zimbardo (2001) stated that the fear generated by terrorism undercuts the sense of trust, stability, and confidence in one's personal world, thus affecting perceived safety and security. These beliefs are sustained by knowledge that terrorist incidents are deliberately perpetrated acts that can occur anywhere and at any time. The assump-

tions that had formerly enabled officers and community members alike to function effectively have become less reliable guides for behavior (Janoff-Bulman, 1992). Consequently, officers must explore a new way of being (Daw, 2001), and knowledge of terrorists, their culture, language, and psychology must be encapsulated in schemas that enhance the capacity of officers to adapt to the new reality in which they have to respond. The police agency has a significant role to play in developing these new interpretive frameworks.

This brief discussion of the issues that agencies and officers may have to contend with illustrates how terrorist events create an environment that differs qualitatively from the operating environment in which agency and officer expectations have developed over years or decades. These historical expectations have driven the development and maintenance of the culture and thus the policies, procedures, and practices that govern present day police work. The importance of acknowledging this issue stems from the fact that the foundation upon which agencies and officers respond to contemporary challenges (i.e., terrorism) derive from their historical assumptions (that past experience is an appropriate predictor of future experience). Consequently, the issues facing agencies and officers have been underestimated because these assumptions and expectations are not accurate predictors of the conditions agencies could encounter in the new era of terrorism (Brake, 2001; Carafano, 2003; Kendra & Wachtendorf, 2003; Paton, 1992). This highlights the need for police agencies to consider both their ability to adapt to a changing, riskier, and more uncertain future and to identify what they can do to facilitate the capacity of their officers to adapt to new demands. Even as it is undeniable that this new environment increases critical incident stress risk, it can also be conceptualized as creating a stimulus for the development of agency and officer capability.

Organizational Learning, Change, and Future Capability

It is almost a certainty that terrorism will not only increase over the coming years, it will also become more deadly (Cooper, 2001). Furthermore, the difficulty of defining who would most likely perpetrate such acts, what they may do, and when and where they could do so adds to this complexity, making it imperative that agencies progressively develop their adaptive capacity. Under these circumstances, it is important that police agencies learn from experience (theirs and that of others), to develop new ways of thinking and acting,

and commit to developing a capacity to manage the demands associated with acts of terrorism (Berkes et al., 2003; FEMA, 2004; Jackson, Baker, Ridgely, Bartis, & Linn, 2003; Kendra & Wachtendorf, 2003). What does this mean for organizational learning? Police organizations must confront the assumptions derived from a long history of effective response to emergency events and accept that they now operate within an environment that is different and that may be more hostile and dynamic. Agencies thus have to develop in ways that facilitate their capacity to adapt rapidly to whatever occurs.

The capacity to learn from experience should not be taken for granted (Berkes et al., 2003; Harrison & Shirom, 1999; Mitroff & Anagnos, 2001; Paton & Hill, 2006). For example, these authors discuss how bureaucratic inertia, vested political interests, centralized power and authority, and operating expectations developed to manage historical conditions have all conspired to block the perceived need to adapt to deal with changes in the environment. Change is also unlikely if organizations underestimate the potential consequences of new challenges by assuming that existing resources, procedures, and competencies will be adequate to deal with these new challenges (Berkes et al.; Carafano, 2003). That is, agencies fail to consider the possibility that the changes are significant enough to warrant new ways of thinking about and responding to environmental events.

Under these circumstances, agencies may underestimate or overlook threats or initiate inadequate actions, reducing their ability to match their capabilities to an environment that now includes highly unpredictable acts of terrorism, which will challenge their response capabilities and provide new sources of stress risk for their officers. Organizational cultures that embody these characteristics will attempt to render the consequences of acts of terrorism "understandable" by interpreting them in the light of previous experience, making it difficult for agencies to consider, far less confront, the demands associated with unpredictable and dynamic terrorist events. Assuming that preexisting capabilities and procedures will suffice increases the likelihood that response to future events will occur in an ad hoc manner, with effective response occurring more by chance than by sound planning and good judgment. Given the potential for terrorist acts to become more frequent and more unpredictable, it is essential that agencies commit to developing ways of knowing and acting designed to enhance resilience and agency and officer capacity to adapt to future challenges.

Organizational Change

To enhance adaptive capacity to deal with complex terrorist events, organizations must learn from past failures to think "outside the square" (Berkes et al., 2003; Kendra & Wachtendorf, 2003; Paton, 1994; Paton & Jackson, 2002). Not only must the organization learn to live with new forms of risk and greater uncertainty, it also must develop a culture appropriate for a contemporary operating environment within which acts of terrorism are a fact of life. Recognition of the importance of institutional learning thus becomes an important precursor of culture change. According to Berkes and colleagues this involves, first, ensuring that the memory of prior terrorism events and the lessons learned (in one's own and other agencies), whether positive or negative, are incorporated into institutional memory and accepted as an enduring fact of police agency life. Second, realistic estimates of new forms of risk can inform planning for the culture, procedures, and competencies required for effective response (Jackson et al., 2003). Knowledge of the competencies required will be determined through analysis of the demands officers are likely to encounter and the procedures required to respond effectively (see discussion of simulation under "Response Schemas" below). This process will inform future officer and organizational development. Finally, recognition of the risk posed by terrorist events and the importance of learning from them must be consolidated into a culture that espouses the policies, procedures, practices, and attitudes required to facilitate a capacity for adaptive response to an uncertain future (Berkes et al.; Brake, 2001; FEMA, 2004; Jackson et al.; Kendra & Wachtendorf; Paton & Jackson); that is, to commit to developing a culture that instills in officers, via, for example, induction, socialization, training, and performance management procedures, the development and maintenance of a capacity to adapt to future challenges. It is also important to recognize that change is required not only to better position police agencies to respond to terrorist events but also to accommodate the fact that the agency culture and the procedures and expectations that flow from it have direct implications for officer well-being and response effectiveness.

Traditionally, traumatic stress reactions have been attributed predominantly to the interaction between physically and psychologically threatening experiences (e.g., handling human remains) and officer characteristics. Although this remains an important aspect of understanding posttrauma reactions, comprehensive understanding of this phenomenon

must include agency characteristics and their role in molding the schemas that influence how officers formulate their actions and that determine their well-being. It is to a discussion of this relationship that this paper now turns.

Organizational Influences on Officer Thinking, Well-Being, and Performance

Organizational factors have been identified as significant predictors of traumatic stress risk for officers responding to terrorist events (Carafano, 2003; Grant, Hoover, Scarisbrick-Hauser, & Muffet, 2003; Kendra & Wachtendorf, 2003). Officers' perceptions of organizational culture are not only a significant predictor of posttraumatic risk (Huddleston, Paton, & Stephens, 2006; Paton, Smith, Violanti & Eränen, 2000), it may even outweigh the influence of other factors. For example, compared with dispositional (hardiness) factors, social support factors, and formal support (debriefing) factors, Paton and colleagues (2000) found that perception of organizational culture was three times more influential as a predictor of traumatic stress outcomes. In this section, factors contributing to the agency-officer relationship are discussed in terms of their implications for understanding resilience.

One way in which the organizational culture influences officers' thinking and action is through prescribing the "way things are done," that is, through the relationship between the culture and its procedures. For officers working in this context, factors such as inadequate consultation, poor communication, a predisposition to protect the organization from criticism or blame, and excessive "red tape" can increase stress risk (Gist & Woodall, 2000; Huddleston et al., 2006; Burke & Paton, 2006). Furthermore, stress risk is greatest if response procedures (e.g., command structure, level of autocracy, degree of devolved authority) derived from routine work are assumed to be appropriate for terrorist response (Carafano, 2003; McKinsey, 2002; Kendra & Wachtendorf, 2003; Paton & Hannan, 2004). In contrast, a culture that supports autonomous response systems, a flexible, consultative leadership style, and practices that ensure that role and task assignments reflect incident demands can facilitate stress resilience (Gist & Woodall; McKinsey; Paton & Hill, 2006). The influence of response procedures on critical incident stress risk can be more specific. This can be illustrated with reference to the unique challenges of deployment, decision-making, and inter-agency collaboration that terrorist events pose for police agencies.

Agency Planning and Officer Deployment

Police agency involvement commences when an alarm is issued or a terrorist act occurs. During this initial phase, agencies are tasked with, for example, accessing intelligence about what has happened, differentiating fact from inference, making sense of confusing and often ambiguous information (Brake, 2001; DTRA, FBI, & USJFCOM, 2001; Kendra & Wachtendorf, 2003), and negotiating operational arrangements with other agencies and jurisdictions (Brake; Dept. of Homeland Security, 2003; Grant et al., 2003). The uncertainty and complexity inherent in the mobilization phase illustrates the fact that agencies must adapt plans to deal with unexpected emergent and evolving problems rather than being able to rely on activating standard operating procedures (Brake; Dept. of Homeland Security; Grant et al.; McKinsey, 2002).

The degree to which agencies can manage the uncertainty inherent in this task has significant implications for the stress risk in officers deployed to respond. The uncertainty means that agencies often have to deploy officers before a full appreciation of the nature or implications of a terror event is available. For example, police officers deployed immediately to the site of the Lockerbie disaster found it difficult to comprehend the carnage and death they encountered (Mitchell, 1991). While performing similar duties in a similar environment, officers deployed after the cause of the event had been identified (a terrorist bombing) demonstrated greater stress resilience because clarification of the nature of the incident allowed them to activate their operational schema and plan how to use their skills and knowledge. The organizational role is to facilitate this capacity to impose meaning on threatening and challenging demands, to limit the likelihood that officers will be overwhelmed by the demands with which they must contend (Paton, 1994).

To enhance officers' capacity to adapt, it is important that agencies guard against basing their mobilization plans on assumptions derived from routine emergencies or on unrealistic or untested plans (Carafano, 2003; Dept. of Homeland Security, 2003; Lasker, 2004). Plans should be derived from accurate analyses of community (e.g., accommodating the need to reconcile different actions) and professional (e.g., concerns for self and family, having to adapt plans to accommodate emergent issues, multi-agency/jurisdictional responses, etc.) response needs and expectations and be designed to accommodate the unique demands (e.g., a biohazard response) likely to be encountered. Agency influence

does not stop here, but extends in several ways into the response itself, with decision-making and multi-agency issues proving unique challenges for officers.

Decision-Making

The dynamic and complex nature of terrorist events generates a need for a level of creative decision-making that exceeds that required for response to "routine" emergencies (Jackson et al., 2003; Kendra & Wachtendorf, 2003). Creative decision-making requires deviation from standard procedures so that decisions may be made in situ. To promote resilience in this domain, agencies need to train officers in creative crisis decision-making and develop procedures to devolve decision-making authority to those working in situ who need to produce contingent solutions to novel problems (Alper & Kupferman, 2003; Carafano, 2003; Endsley & Garland, 2000; FEMA, 2004; Grant et al., 2003; Jackson et al., 2003; McKinsey, 2002; Paton & Hannan, 2004; Paton et al., 1999). Furthermore, agencies must recognize that they may not be responding with the level of autonomy or authority that they would experience under normal circumstances.

The Multi-Agency and Multi-Jurisdictional Context

The environment for acts of terrorism is unique in its need for a multi-agency and multi-jurisdictional response (Brake, 2001; Dept. of Homeland Security, 2003; FEMA, 2004; Grant et al., 2003; Jackson et al., 2003; Kendra & Wachtendorf, 2003). The complex nature of terrorist events brings together agencies that rarely interact or collaborate with one another under routine circumstances, which reduces the opportunities to allow shared understanding of their respective roles to develop. For example, when responding to terrorist events, police officers could find themselves having to work with representatives from hazardous materials response teams, urban search and rescue teams, community emergency response teams, anti-terrorism units, special weapons and tactics teams, bomb squads, emergency management officials, municipal agencies, and private organizations responsible for transportation, communications, medical services, public health, disaster assistance, public works, and construction workers (Carafano, 2003). The potential for role conflict and ambiguity under these circumstances can make a substantial contribution to critical incident stress risk. Consequently, developing a capacity to adapt to multi-agency and jurisdictional contexts becomes an important component of any po-

lice resilience strategy, with responsibility for doing so being added to the agency planning agenda.

Simply bringing together representatives of agencies who have little contact with one another under normal circumstances will not guarantee a coordinated response. Rather, such ad hoc arrangements can increase inter-agency conflict, result in a blurring of roles and responsibilities, and fuel frustration and feelings of inadequacy and helplessness (McKinsey, 2002; Paton, 1994). This capacity can be developed by integrating the respective agency roles through inter-agency team development activities (Brake, 2001; Flin & Arbuthnot, 2002; Grant et al., 2003; Paton et al., 1999) that focus on building understanding of the respective contributions of different agencies, develop collaborative management systems, and ensure effective inter-agency communication (Pollock, Paton, Smith, & Violanti, 2003). At one level, this issue reflects the need for structural integration between agencies to facilitate a capacity to collaborate during a crisis. However, the effectiveness of this collaboration is a function of the degree to which it is complemented by officers' understanding of their respective contributions to the same plan and their shared understanding of each member's role in the response (Brake, 2001; FEMA, 2004; Paton & Flin, 1999). This means that the schemas or interpretive frameworks that have traditionally guided officers' operational decisions and actions and that play a crucial role in influencing posttrauma risk (Janoff-Bulman, 1992; Paton, 1994; Tedeschi & Calhoun, 2003) must be expanded to include multi-agency response characteristics. This can be accomplished through multi-agency training (FEMA; Pollock et al.). This is, however, not the only aspect of developing schemas to accommodate the unique demands of terrorist events.

Response Schemas

The interpretive frameworks used by officers provides the basis for rendering events coherent to the point where they can apply plans and competencies to manage the demands encountered (Janoff-Bulman, 1992; Paton, 1994).

The schemas or mental models that guide their response to terror events reflect officers' socialization into their profession and organization, their training, the experiences they accumulate over time, and the operating practices that prescribe how they respond to routine emergencies (Paton & Burke, 2007). These become implicit (taken for granted) aspects of the mental models used by officers to make predic-

tions about future events, organize experiences, and make sense of the consequences of events and their reactions to them. However, the importance of these models as determinants of well-being and performance effectiveness tends to remain unrealized until officers encounter events that challenge their implicit assumptions (Paton, 1994). Terrorist events can result in officers having to contend with several factors that could challenge these assumptions.

In addition to the issues introduced earlier, several other aspects of a terrorist response may fall outside the parameters of schemas developed from "routine" experience. For example, because the causes of acts of terrorism are always attributable to deliberate human action intended to cause harm, these acts threaten perceived control, a prominent stressor in officers whose training is designed to promote control (MacLeod & Paton, 1999; Myers, 2001). The magnitude of the death and injury encountered, coupled in many cases with uncertainty regarding the cause of death or whether those officers have come into contact with infectious disease agents, represents another conceptual departure from expectations developed from prior experiences (Jackson et al., 2003). Performing body recovery and identification duties is as great a stress risk for officers (North et al., 2002; Simpson & Stehr, 2003) as is having insufficient, inadequate, or inappropriate resources to perform response tasks (Carafano, 2003; Paton, 1994) and having to deal with the fact that the terror response environment is simultaneously a disaster area, a crime scene, and a mass grave. These factors add to the complexity of the role relationships and tasking that officers have to manage.

Consequently, developing the capability of officers to adapt to the challenges posed by terrorist hazards is of paramount importance for agencies, officers, and communities alike. New schemas capable of facilitating the capacity to adapt to these new kinds of demands need to be developed. To do so, agencies and officers must confront prior assumptions and facilitate the development of interpretative competencies to accommodate the new reality of terrorism for contemporary policing.

The development of these interpretive mechanisms will be particularly important for police officers who may have to confront the consequences of terrorism and respond to the challenges it poses to themselves and the communities they serve on a regular basis (Alper & Kupferman, 2003; Grant et al., 2003; Kendra & Wachtendorf, 2003; Paton & Hannan,

2004; Simpson & Stehr, 2003). In general, training that develops the capability of operational mental models (essential to response planning and organizing action) to impose coherence upon atypical and challenging experiences and to accommodate the demands encountered should be an essential component of stress risk management (Dunning, 2003; Paton, 1994; Paton & Jackson, 2002).

In the past, when dealing with "routine" events, training practices and information about officers' prior experiences served as fairly effective mechanisms for transmitting and sustaining operational schemas. However, the qualitatively different nature of the terrorist environment renders these existing mechanisms less appropriate. Agencies cannot wait for officers to accumulate experience; they need to develop new schemas as quickly as possible. Consequently, agencies need a more sophisticated approach to confronting assumptions and reframing schemas in ways that accommodate the reality of operating within the context of the terrorist threat. A capacity for reframing can be developed using simulations.

Simulations provide opportunities for officers to experience the kinds of demands they will have to contend with, develop realistic performance expectations, review and revise response plans and roles, facilitate adaptation to the demands associated with body recovery duties, understand their stress reactions, and rehearse strategies to deal with stressful circumstances and reactions (Crego & Spinks, 1997; Deahl, Gillham, Thomas, Searle, & Srinivasan, 1994; Paton & Jackson, 2002; Thompson, 1993). Training is required that develops expectations of realistic outcomes, an ability to differentiate personal and situational constraints, and interpretive processes that review experiences as learning opportunities to enhance future competence and thus officers' capacity to adapt to challenging circumstances (Dunning, 2003; Paton, 1994).

Developing these more sophisticated psychological structures requires that simulations are constructed using information derived from two sources. One source is the systematic analysis of the competencies required for effective response to terrorist events. The second involves designing simulations capable of reconciling event characteristics (e.g., exposure to biohazards; personal danger; dealing with human remains; and cross-cultural aspects of death and loss) with the competencies required to manage them (e.g., hazard identification and interpretation; adaptive

planning; team and multi-agency operations; information and decision management) in ways that promote adaptive capacity (Paton & Hannan, 2004).

By including simulations within a training strategy, police agencies can proactively enhance officer resilience, develop their capacity to adapt to challenging circumstances, and protect their well-being. Given the complexity and uncertainty inherent within the new environment, this strategy will not eliminate the risk of posttrauma reactions. Consequently, post-event support resources will remain an important component of any critical incident stress risk management strategy. The organizational influence on resilience is not restricted to the response phase – it also extends into the post-event recovery period.

Managing Risk After the Event

It is important to remember that the support practices and procedures used to reintegrate officers back into routine work occur within an organizational context. Stress risk is increased if reintegration occurs within an organizational culture that discourages emotional disclosure, focuses on attributing blame to officers, or minimizes the significance of their reactions or feelings (Paton & Stephens, 1996; MacLeod & Paton, 1999). In contrast, an organizational culture that encourages managers to actively promote reintegration can complement other resilience strategies. Managers can assist adaptation by helping officers appreciate that they performed to the best of their ability and reducing performance guilt by realistically reviewing how situational factors constrained performance (MacLeod & Paton).

Managers can also contribute to the development of stress resilience by working with officers to identify the strengths that helped them deal with the terrorist emergency and building on this to plan how future events can be dealt with more effectively. Similarly, when reviewing response problems, the focus should be on ensuring that the review occurs in a positive climate in which discussion identifies ways that issues can be constructively resolved or contained in the future. The feedback from this process can contribute to identifying future training and support needs as well as organizational practices. If these actions are not taken, risk management programs should review the climate of the relationship between managers and staff (e.g., levels of trust) and seek ways to build this capacity (Gist & Woodall, 2000; Paton et al., 2003). Such analyses can promote future response effectiveness, facilitate the establishment and/or maintenance of a resilient organizational climate, and contribute to the next iteration of agency and officer change and development.

Conclusion

Terrorism adds a new, unique, and challenging dimension to the environment of contemporary policing, one that differs qualitatively from that in which policing has historically occurred. It presents agencies and officers alike with a more complex, dynamic, and threatening environment. As a result, agencies and officers must be able to learn from experience and incorporate into the agency culture and officer schemata ways of ensuring a capacity to adapt to future events. Given the importance of the agency-officer relationships in this process, organizational culture (e.g., attitudes to emotional disclosure, performance expectations, empowerment) and practices (e.g., devolving authority, incident management protocols, inter-agency collaboration) play an important role in creating and sustaining a context that supports officer well-being and effectiveness (Jackson et al., 2003; Paton & Hill, 2006; Paton & Jackson, 2002). Cultural change can be transmitted to officers through, for example, induction and socialization procedures, training, simulations, and participative organizational development programs. Additional work is, however, required in order to operationalize the development of resilience by identifying the specific indicators that reflect how agency culture is enacted in ways that lead to resilience. Once identified, these predictors can be used by agencies to plan and evaluate their resilience strategy. The dynamic nature of contemporary policing means that the development and maintenance of agency and officer resilience should be viewed as an iterative process that encompasses personal and organizational learning.

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Hardiness and Psychological Distress in a Cohort of Police Officers

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Abstract: Since police officers are frequently exposed to high stress situations, individual differences in the response to stress and trauma are of interest. We examined the association of hardiness components (commitment, control and challenge) with depression, posttraumatic stress disorder (PTSD) symptoms, and symptoms of general psychological distress in police officers. The random sample included 105 officers (40 women and 65 men) from the Buffalo Cardio-Metabolic Police Stress (BCOPS) study baseline visit. Components of hardiness were measured using a 15-item hardiness scale. Depressive symptoms were measured using the Center for Epidemiological Studies Depression scale (CES-D), PTSD symptoms were measured using the impact of events scale (IES), and symptoms of general psychological distress were measured using the Brief Symptoms Inventory (BSI). Associations were assessed using linear regression analysis. Models were adjusted for age, education and marital status. Because of significant gender interactions, analyses were stratified by gender. The hardiness control dimension was significantly and negatively associated with CES-D for both genders but was not associated with IES. Hardiness commitment was significantly and negatively associated with both CES-D and IES in women. Men had negative but non-significant associations for commitment with CES-D and IES. Hardiness commitment was negatively associated with the overall BSI score for both men and women but the association was only significant for men, though the strength of the association was stronger for women. This is likely a result of the impact of the smaller sample size for women. The magnitude of gender differences in these associations shows that for depressive and PTSD symptoms, the commitment dimension of hardiness may be more protective in female police officers than in male officers. [International Journal of Emergency Mental Health, 2008, 10(2), pp. 137-148].

Key words: *Stress, depression, PTSD, hardiness, police*

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Resiliency is often used to imply an ability to "bounce back." Being able to bounce back is an important capability in situations that are difficult and stressful. Paton, Violanti, and Smith (2003) refer to resiliency as the capacity of individuals to draw upon 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. The concept of resiliency has been operationalized and studied in depth as hardiness (Maddi, 2005).

Hardiness as Resiliency

Hardiness refers to a personality trait that indicates the manner in which a person might interpret a critical incident, life stress, or traumatic event. Hardiness is thought to consist of three sets of cognitive style (Maddi, 1990). *Commitment* reflects the tendency to find meaning and purpose in potentially stressful events; *control* refers to the tendency to believe that one is capable of managing the stressful event; and *challenge* is the tendency to see stressful events as an opportunity for personal growth. Thus, more hardy individuals are thought to be more resilient to stressors because they tend to see meaning in their lives, feel in control of these events, and seek challenging environments over safety and security. Evidence exists that factors such as hardiness, emotional stability, self-awareness, tolerance for ambiguity, and self-efficacy can enhance resilience (Flin, 1996; Linley & Joseph, 2004; MacLeod & Paton, 1999; Paton, Violanti, & Smith, 2003).

The Police and Hardiness

Police officers are regularly exposed to critical incidents (emergencies and disasters). While this type of exposure is often viewed as a precursor to the development of posttraumatic stress disorder (PTSD) and depression, evidence indicates that positive outcomes occur as well, and that most officers do not develop psychological anomalies (Paton et al., 2003; Moran & Colless, 1995). Positive outcomes include exercising professional skills to achieve highly meaningful outcomes, posttraumatic growth, enhanced professional capability, a greater appreciation for family, and an enhanced sense of control over significant adverse events.

Evidence suggests that positive outcomes occur when police officers use psychological competencies such as hardiness to allow themselves to render traumatic or stressful events coherent, manageable, and meaningful (Antonovsky, 1990). In police work, traumatic work incidents may create a sense of psychological disequilibrium that represents that period when the existing interpretive framework that guides the officer's expectations and actions has lost the capacity to make sense of traumatic experiences. (Janoff-Bulman, 1992; Paton, 1994).

Hardiness has been identified as a protective factor that reduces the probability of pathogenic traumatic and psychological reactions (Frederickson et al., 2003; Paton, 1994; 2006). Thus, the objective of the present study is to examine hardiness in police officers and its associations with PTSD, depression, and psychological distress. It is hypothesized that officers higher in hardiness will be more resistant to increased levels of PTSD symptoms, depression, and psychological distress.

METHODS
Study Population

The data for this study was collected by the Center for Preventive Medicine at the State University of New York, Buffalo, New York during 1999 and 2000. The study population was made up of 115 randomly selected police officers from the Buffalo, New York police department. Of these, a total of 105 (40 women and 65 men) had complete data on the psychosocial variables of interest in this study. This study was cross-sectional and included self-report measures of hardiness, the impact of events (IES) scale, depressive symptoms (CES-D), and the brief symptoms inventory (BSI).

Study Measures
Hardiness

Hardiness was measured using the 15-item scale developed by Bartone (1995) consisting of three dimensions including control, commitment, and challenge. For this instrument participants respond on a 4-point scale indicating the level at which each of 15 statements apply to them as follows: 0 (not at all true); 1 (a little true); 2 (quite true); 3 (completely true). Scores are obtained by reverse coding the appropriate items and summing items for each dimension. The overall hardiness score is obtained by summing all 15 items. Hardiness control, commitment, and challenge represent three related dimensions. The control dimension consists of items that represent the characteristic of believing that one is capable of managing potentially stressful events

(e.g., planning ahead can help avoid most future problems). The commitment dimension consists of items that represent an ability to find meaning in potentially stressful events (e.g., most of my life gets spent doing things that are worthwhile). The challenge dimension has items related to the ability to interpret potentially stressful events as opportunities (e.g., changes in routine are interesting to me).

It has been suggested that analysis of hardiness may be done using either the three dimensions (separately) or the composite score as long as the composite score is more consistently and strongly related to the dependent variables of interest than the separate dimensions (Funk, 1992). It is straightforward to evaluate this empirically by comparing associations between the composite score and dependent variables of interest with associations between the hardiness dimensions and dependent variables and using the composite score only when it is as strong a predictor as the dimensions taken separately.

Depressive Symptoms

Depressive symptoms were measured using the Center for Epidemiological Studies-Depression scale (CES-D). The CES-D is a short scale that was designed to measure symptoms of depression in the general population (Radloff, 1977). The CES-D measures symptoms of depression (e.g., poor appetite, restless sleep, sadness) using 20 items on a 4-point scale. The 4-point scale represents how often each symptom occurred during the past 7 days as follows: 0 (rarely or none of the time, less than 1 day); 1 (some or little of the time, 1-2 days); 2 (occasionally or a moderate amount of time, 3-4 days); and 3 (most or all of the time, 5-7 days). The CES-D is scored by reverse coding the appropriate items and summing the scores to obtain an overall score.

PTSD Symptoms

Symptoms of posttraumatic stress were measured using the impact of events scale (IES) (Horowitz, Wilner, & Alvarez, 1979; Sundin & Horowitz, 2002; Sundin & Horowitz, 2003). The IES consists of 15 items describing the subjective impact or symptom related to a traumatic event. These items are related to two response sets or subscales including intrusion (e.g., I had waves of strong feelings about it) and avoidance (e.g., I stayed away from reminders of it). Each item has a 4-point response describing the frequency of symptoms during the past 7 days as follows: 0 (not at all); 1 (rarely); 3

(sometimes); and 5 (often). Subscales for intrusion (seven items) and avoidance (eight items) are obtained by summing the appropriate items and the overall IES score by summing all 15 items.

Brief Symptoms Inventory

Self-reported psychological symptoms and distress were measured using the Brief Symptoms Inventory (BSI). The BSI is a shortened (54 item) version of the Symptoms Checklist-90-Revised (SCL-90-R). It was developed as a brief alternative to the complete scale (Derogatis & Melisaratos, 1983). The BSI consists of nine primary dimensions, each with five to seven items measured on a 5-point scale (0-4) ranging from "not-at-all" to "extremely." These dimensions are quantified by computing the means score for subscale items. The dimensions of this scale include the following: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The instrument also includes a general severity index (GSI) that consists of the average of all 54 items. This instrument has shown good convergent validity, construct validity, test re-test reliability, and internal consistency (Derogatis & Melisaratos, 1983).

Statistical Methods

Descriptive statistics were obtained for demographic variables including age, education, marital status, years of police service, and police rank. For descriptive purposes, continuous demographic variables, such as age and years of service, were broken into meaningful descriptive categories and reported as frequencies and percentages along with the other categorical demographic variables. Age-adjusted means and comparisons across gender for the CES-D, IES and BSI scores were completed using analysis of covariance (ANCOVA). Dichotomous variables were compared across groups by means of chi-square statistics or Fisher's exact tests where expected frequencies were too small for valid chi-square tests. All significance tests were performed at the alpha = 0.05 level.

Linear regression analysis was used to estimate associations between hardiness as an independent variable and CES-D score, the two IES subscales and total IES, along with the nine BSI dimensions and total GSI. We tested for interactions between gender and hardiness dimensions to assess the observed differences in the strength of associations be-

tween hardiness and the dependent variables of interest between men and women. Results were reported as unstandardized and standardized regression coefficients (e.g., regression slopes with hardiness dimension as independent variable and CES-D, IES or GSI as dependent variable). Regression analyses were adjusted for important covariates including age, education and marital status. All analyses were performed using the SAS system for statistical analysis (SAS STAT Procedures Guide, 2006).

RESULTS

Demographics

Demographic statistics are presented in Table 1. The study population had 40 women and 65 men with a higher percentage of men aged 50 years or older (13.8% men vs. 2.5% women). More than half of the participants had education including at least four years of college. The percentage of women who were divorced was nearly double that for men

(17.5% women vs. 9.2% men) with a similar pattern for those who were single. There were approximately twice as many men with at least 15 years of police service as women, and women had a higher percentage of rank at the level of police officer with men having a higher proportion at the rank of detective.

Hardiness

Since the three hardiness dimensions were more consistently and strongly associated with the dependent variables of interest than the composite scale, analyses were done using the separate dimensions. Therefore, descriptive statistics for the composite hardiness scale are not reported. Higher values for the hardiness dimensions indicate higher levels of hardiness. Men and women had similar mean values for the hardiness challenge dimension (p = 0.83) while men had higher levels than women on both hardiness commitment and hardiness control ($p = 0.01$ and $p = 0.04$ respectively; Table 2).

Table 1.
Demographic characteristics by gender, Buffalo Police Baseline Health Study, 1999.

Characteristic	Women (n = 40) Freq	%	Men (n = 65) Freq	%	Total (N = 105) Freq	%
Age Group						
< 40 years	23	57.5	35	53.8	58	55.2
40-49 years	16	40.0	21	32.3	37	35.2
50 + years	1	2.5	9	13.8	10	9.5
Education						
High School/GED	5	12.5	14	21.5	19	18.1
College < 4 years	14	35.0	18	27.7	32	30.5
College 4 + years	21	52.5	33	50.8	54	51.4
Marital Status						
Single	13	32.5	11	16.9	24	22.8
Married	20	50.0	48	73.8	68	64.8
Divorced	7	17.5	6	9.2	13	12.4
Years Served						
1-5 years	11	27.5	11	16.9	22	21.0
6-10 years	9	22.5	7	10.8	16	15.2
11-15 years	11	27.5	18	27.7	29	27.6
15+ years	9	22.5	29	44.6	38	36.2
Rank						
Police Officer	30	75.0	38	58.5	68	64.8
Sergeant/ Lieutenant	6	15.0	8	12.3	14	13.3
Captain	0	0.0	3	4.6	3	2.9
Detective	3	7.5	15	23.1	18	17.1
Other	1	2.5	1	1.5	2	1.9

Table 2. Hardiness, depressive symptoms, PTSD symptoms, and brief symptoms inventory total score (GSI) by gender, adjusted for age.				
	Women		Men	
	Mean (SE)		Mean (SE)	*p* value
Hardiness				
Challenge	8.4	(0.47)	8.5	(0.37)	0.83
Commitment	9.2	(0.34)	10.4	(0.27)	0.01
Control	9.2	(0.30)	10.0	(2.00)	0.04
CES-D	8.4	(1.07)	6.7	(0.84)	0.21
Depression[a] (%)	12.3 %		6.3 %		0.31
IES total score	14.1	(2.68)	15.9	(2.10)	0.61
Intrusive	6.8	(1.33)	7.0	(1.04)	0.89
Avoidant	7.3	(1.46)	8.9	(1.15)	0.43
PTSD[b] (%)	28.5 %		31.7 %		0.72
GSI	0.48	(0.06)	0.36	(0.05)	0.13

[a]Depression defined as CES-D total score of 16 or more. [b]PTSD defined as IES total score of 26 or more.

Depressive Symptoms

The CES-D scores had values ranging from zero to 38 (Table 2). Men had lower mean CES-D scores than women, but the difference was not statistically significant (*p* = 0.21). We also computed the percentage of individuals with and without depression based on a CES-D score of 16 or more as an indicator of the presence of depression (McDowell & Newell, 1996). This resulted in age-adjusted estimates of the prevalence of depression with 12.3% in women and 6.3% in men. While this is an apparently large difference, it was not statistically significant (*p* = 0.31).

PTSD Symptoms

There were no significant differences between men and women for the IES composite score or subscale scores (Table 2). We estimated the age-adjusted prevalence of moderate to severe PTSD symptoms using the cutoff point of 26 or more for the IES total score (Corneil, Beaton, Murphy, Johnson, & Pike, 1999). This resulted in moderate to severe PTSD symptom prevalence of 28.5% for women and 31.7% for men, which were not significantly different (*p* = 0.67).

Brief Symptoms Inventory

The overall mean level of psychological distress as measured by the GSI was higher for women (0.48) than men (0.36) but the difference was not statistically significant (*p* = 0.13). Norms for the GSI are published in terms of mean GSI with the mean for normal non-patients being 0.30 with standard deviation 0.31 (Derogatis & Melisaratos, 1983). The mean GSI for our sample was 0.42, with standard deviation 0.39. This implies a higher than normal level of psychological distress for our sample of police officers, with women being particularly high.

Hardiness and Depressive Symptoms

The hardiness control dimension was significantly and negatively associated with depressive symptoms as measured by the CES-D for both men and women (Tables 3 and 4). The standardized regression coefficients for this association were nearly the same for men (β = -0.36) and women (β = -0.37) indicating similar relationships between hardiness control and depressive symptoms. The control dimension was not significantly associated with the depression dimension of the BSI. Depressive symptoms (CES-D) were significantly

negatively associated with the hardiness commitment dimension for women ($p < 0.0001$; $\beta = -0.69$) but not for men ($p = 0.139$; $\beta = -0.19$). The test for interaction between sex and hardiness commitment in predicting CES-D score was statistically significant ($p = 0.004$), indicating that the association reported above for women was significantly higher than for men. There was no association between depressive symptoms and the hardiness challenge dimension for either men or women.

Hardiness and PTSD Symptoms

The total IES score and the two IES subscales were significantly and negatively associated with the hardiness commitment dimension for women only (Tables 3 and 4). The intrusive subscale seemed to have a stronger contribution to the overall association between PTSD symptoms and hardiness commitment with higher standardized regression coefficient ($\beta = -0.54$) relative to the contribution of the avoidant subscale ($\beta = -0.37$). The test for interaction between gender and hardiness commitment in predicting IES score was not significant ($p = 0.08$); but the interaction for predicting the intrusive subscale was significant ($p = 0.020$), confirming that women had a stronger statistically significant negative association than men for this subscale. There were no associations between the IES scales and hardiness challenge or hardiness control.

Hardiness and Brief Symptoms Inventory

The GSI was significantly and negatively associated with hardiness commitment for men only ($\beta = -0.26$, $p = 0.04$) but the association for women was of roughly similar order of magnitude ($\beta = -0.31$, $p = 0.08$) and was not statistically significant. This was likely due to the smaller sample size for women. The test for interaction between hardiness commitment and gender in predicting the GSI was not significant ($p = 0.15$).

DISCUSSION

We have shown that hardiness control and commitment dimensions have significant and potentially protective cross-sectional associations with measures of psychological distress. Also evident are significant gender differences in these associations for depressive symptoms and PTSD symptoms,

with significant associations among women but not men.

Overall, our sample of officers had a higher mean level of psychological distress than did the non-patient norm sample from the Brief Symptom Inventory — GSI police = 0.48, GSI norm population = 0.36 (Derogatis & Melisaratos, 1983). The overall mean level of psychological distress as measured by the GSI was higher for women (0.48) than men (0.36) but the difference was not statistically significant ($p = 0.13$).

Additional evidence of increased psychological distress among the police was found with depression and PTSD scores. In this regard, the age-adjusted prevalence of female officers who met CES-D criteria (score of >16) for depression was nearly twice that of male officers (12.3% and 6.3% respectively). This result is similar to the United States general population studies (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). This gender difference in prevalence of depression has been reported and discussed for the Buffalo police officers in a previous study (Darensburg et al., 2006). Women having higher levels of depression than men has been a common finding in epidemiological studies (Wulsin et al., 2005; Weissman et al., 1996). Several studies have also reported that women with PTSD are twice as likely to have comorbid depression and anxiety disorders when compared to men (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

The higher prevalence of depression among women may be due to comorbidity with PTSD and the influence of type of traumatic event exposure. It has been reported that women have differential exposure to work trauma and higher levels of stress from dealing with violent persons and dealing with exposure to sex discrimination and prejudice (Brown & Fielding, 1993).

It has been argued that social isolation, conflict with colleagues, and negative group climate are relatively strong predictors of depression in policewomen, and that management stressors impacted female officers more than the dangers of police work (Dormann & Zapf, 2002; Thompson, Kirk-Brown, & Brown, 2000). Since management and social support have been identified by women as important for achieving job satisfaction (Harris, Moritzen, Robitshek, Imhoff, & Lynch, 2001), these sources of stress are important in explaining findings that female police officers have higher prevalence of psychological distress.

Managing multiple roles and dealing with work and family conflict is a more common challenge for female officers than for male officers. These stressors could lead to female

Table 3.

Associations between hardiness dimensions and psychological distress defined by CES-D, IES, and BSI scores for women. Adjusted for age, education, and marital status.

	Hardiness Dimension								
	Challenge			Commitment			Control		
Variable	B (SE)	p value	β	B (SE)	p value	β	B (SE)	p value	β
CES-D	0.39 (0.45)	0.388	0.16	**-2.60 (0.55)**	**<.0001**	**-0.69**	**-1.80 (0.80)**	**0.029**	**-0.37**
IES total score	0.04 (0.86)	0.968	0.01	**-3.59 (1.22)**	**0.006**	**-0.47**	-1.33 (1.62)	0.418	-0.14
Intrusive	-0.03 (0.45)	0.956	-0.01	**-2.13 (0.61)**	**0.001**	**-0.54**	-0.73 (0.84)	0.392	-0.15
Avoidant	0.06 (0.44)	0.892	0.02	**-1.46 (0.65)**	**0.031**	**-0.37**	-0.60 (0.82)	0.474	-0.12
GSI	0.005 (0.02)	0.830	0.04	-0.07 (0.04)	0.077	-0.31	-0.05 (0.05)	0.284	-0.18

Note. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient.

Table 4.

Associations between hardiness dimensions and psychological distress defined by CES-D, IES, and BSI scores for men. Adjusted for age, education, and marital status.

	Hardiness Dimension								
	Challenge			Commitment			Control		
Variable	B (SE)	p value	β	B (SE)	p value	β	B (SE)	p value	β
CES-D	0.18 (0.27)	0.506	0.09	-0.48 (0.32)	0.139	-0.19	**-1.01 (0.35)**	**0.006**	**-0.36**
IES total score	-0.81 (0.73)	0.275	-0.13	-0.90 (0.91)	0.322	-0.13	-0.73 (1.06)	0.492	-0.09
Intrusive	-0.20 (0.36)	0.593	-0.07	-0.35 (0.45)	0.444	-0.10	-0.37 (0.52)	0.477	-0.09
Avoidant	-0.61 (0.41)	0.140	-0.18	-0.56 (0.51)	0.276	-0.14	-0.36 (0.60)	0.550	-0.08
GSI	-0.02 (0.01)	0.193	-0.16	**-0.03 (0.02)**	**0.041**	**-0.26**	-0.02 (0.02)	0.354	-0.12

Note. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient.

officers being more at risk for depressive symptoms. Since the number of female-headed, single-parent families has been increasing in recent years, it is possible that some of the female officers are heads of single-parent households and therefore have sole responsibility for raising children (Kasen, Cohen, Chen, & Castille, 2003). Added to this is shift work, which may place a strain upon family schedules and child care.

Secondly, the present results suggest that both women and men officers have equally higher levels of PTSD symptomatology (28.5% and 31.7% respectively) than seen in the general population. Women from the general population were found to have higher PTSD rates than men (18.3% and 10.2% respectively; Kessler, 1995). Additionally, the present sample suggests higher rates of PTSD when compared to other emergency responders and cohorts of police officers (Bennett, Williams, Page, Hood, & Woollard, 2004; Chang et al., 2003; Robinson, Sigman, & Wilson, 1997; Wagner, Heinrichs, & Ehlert, 1998). There are likely many factors which explain both high rates and similarity of PTSD symptom levels in police officers. First, we presently do not have data on such factors as the degree of identification with victims, frequency of exposure, and coping styles. Also, the type of traumatic exposure may explain the increased levels of PTSD in both women and men (Breslau, 1998). Other studies which considered these factors had contrary results. In one study, female officers reported exposure to more traumatic incidents, such as natural disasters, suicide, child and spousal abuse, than male officers (Martin, McKean, & Veltkamp, 1986). Also, Violanti and Gehrke (2004) found a 33-fold higher risk for PTSD among female police officers who were exposed to abused children than female officers who were not, and a 4.3-fold increased likelihood of PTSD when they witnessed someone dying. It may also be possible that PTSD symptoms mask depression as well (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

Hardiness as a Protective Trait

Of considerable interest in the present study were results concerning associations between psychological distress and hardiness. Results in Table 3 indicate that female officers high on the commitment dimension of hardiness had significantly lower levels of depression and PTSD. For women, there was a negative association between hardiness commitment and the overall psychological distress score (GSI) which approached significance ($p = 0.077$). Also, in women the hardiness control dimension was significantly and negatively

associated with depression ($p = 0.029$). In male officers (Table 4), hardiness commitment was not associated with depression or PTSD scores, but did have a significant protective association with the overall GSI psychological distress score ($p = 0.041$). Similar to female officers, the hardiness control dimension had a significant protective association with depressive symptoms in male officers ($p = 0.006$).

These results suggest that hardiness, as an overall trait, may be less effective in police work for ameliorating psychological distress than are the individual dimensions of commitment and control. This was especially evident among policewomen, where only hardiness commitment was significantly associated with psychological distress (Table 3). In light of these findings, it is therefore important to understand the nature of these significant components in the context of police work.

Such findings appear contrary to Maddi's (2002; 2004) suggestion that individual hardiness components of challenge, commitment, and control by themselves are not enough to turn stressful changes to advantage. According to Maddi (2004), if one is strong in commitment, she/he will stay involved, as that seems the best way to find what is experientially interesting and meaningful. They do not become isolated or alienated. If one is strong in control, she/he will seek influence on outcomes around them, even if difficult. If one is strong in challenge, she/he will continue to learn from positive or negative experiences, and will be less likely threatened by change. Maddi (2004) adds that people high in commitment but low in control and challenge are enmeshed with the people, things, and events around them, never thinking to have an influence through or to reflect on their experience in the interactions. They would have little individuality, and their sense of meaning would be contributed completely by the social institutions in which they are enmeshed.

In the context of police work, a strong enmeshment into the social institution may actually be beneficial for officers, especially women. The sense of cohesiveness evident in police work may be a factor (Violanti, 1996). As such, this protection may, by itself, supersede the need for individual officers to be high in such hardiness traits as challenge and control. Following Antonovsky's (1990) definition, resilience reflects the extent to which individuals and groups can call upon their resources and competencies in ways that allow them to render challenging events coherent, manageable, and meaningful. A police officer's capacity to render challenging experiences meaningful, coherent, and manageable reflects

the interaction of person and organizational factors. Such a model of resilience integrates person and organizational factors to provide a proactive framework for developing and sustaining police officer resilience (Paton, Violanti, & Smith, 2003). Another issue to be addressed is differences between male and female officers in terms of the influence of commitment on reducing distress. Commitment, as a component of hardiness, reflects the tendency to find meaning and purpose in potentially stressful events. It is speculated that policewomen high in commitment, despite the difficulties experienced in a male dominated environment, recognize a positive side to policing and are more secure being enmeshed in a cohesive network. The very situations that lead policemen to assume the job is stressful may in essence stimulate the female officers with high commitment to do battle (Hart, Wearing, & Headley, 1995). The question then becomes one of individual differences and officers' perceptions of their work, their status outside of work, and the amount of social support they perceive. For the highly committed policewoman, distress can act as a catalyst for positive adaptation and growth (Tedeschi & Calhoun, 1995).

The present results suggest that we should further consider the implications of elevated PTSD symptoms and depression in police work and the protective impact of hardiness. A defining characteristic of police work is the risk of exposure to highly challenging and potentially threatening events capable of eliciting acute stress and posttrauma reactions. It is important to understand that exposure to stress is unpredictable. Recent acts of terrorism present new challenges and introduce new sources of risk (Paton et al., 2003). In order to more effectively deal with these new and uncertain risks in policing, better ways of promoting both personal and organization networks that enhance resiliency become increasingly important.

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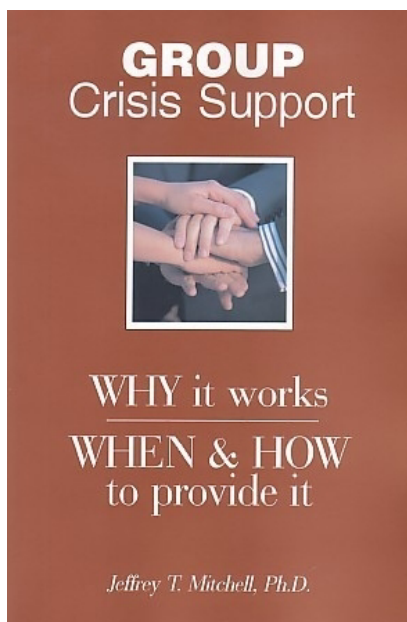Weissman, M. M., Bland, R. C., Canino, G. J., Faravelli, C., Greenwald, S., Hwu, H. G. et al. (1996a). Cross-national epidemiology of major depression and bipolar disorder. *JAMA, 276,* 293-299.

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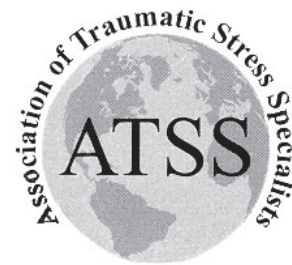
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Selected Annotated Journal Resources

Karina E. Chapman, M.S. and Kristina Perry Lloyd, M.S.

Cohen, L. R., Hien, D. A., & Batchelder, S. (2008). The impact of cumulative maternal trauma and diagnosis on parenting behavior. *Child Maltreatment, 13,* **27-38.**

TYPE OF ARTICLE

• Original Empirical Investigation

OBJECTIVE/PURPOSE OF THE ARTICLE

• To examine the relative contributions of cumulative maternal trauma, substance abuse, depressive and posttraumatic stress diagnoses on parental abuse potential, punitivness, and psychological and physical aggression.

METHODS
Participants

• One hundred and seventy six mothers participated who were primarily of minority status: African American (70.8%) and Hispanic (20.0%). The majority were currently unmarried: single (54.0%) and divorced or separated (19.3%). The sample was diverse in education, ranging from high school drop outs to college graduates. The mean IQ score for the sample was 89.82 (*SD* = 13.48), and the mean age was 37.49 years (*SD* = 6.47).

• In the sample, 88 women (50.0%) had a history of substance use disorders, with 67 (38.1%) meeting the criteria for dependence on at least one substance. Seventeen women (9.7%) met the criteria for current dependence and 3 (1.8%) met the criteria for current abuse.

• In all, 52 women (30.1%) had a history of depression and 35 (20.2%) met criteria for a current depressive disorder.

Thirty women (17.0%) met criteria for current PTSD and 18 (10.2%) met criteria for past PTSD.

• One hundred and forty five women (71.6%) reported experiencing interpersonal trauma during the course of their lifetime. Of these, 72 women (40.9%) reported childhood sexual abuse, 62 (35.2%) reported childhood physical abuse, and 30 (17.0%) reported witnessing violence as a child. In terms of adulthood trauma, 45 women (31.9%) reported partner violence and 28 (15.9%) reported sexual assault.

Materials

• The SCID-SAC Version (SCID-SAC; Spitzer, Williams, Gibbon, & First, 1992) was used to assess Axis I diagnoses according to the *DSM-IV*. It is a modified version of the SCID developed for detection of Axis I disorders among substance abusers based on life history. The current study administered: Alcohol Use Disorders, Psychoactive Substance Use Disorders, Affective Disorders, Posttraumatic Stress Disorders, and Psychotic Screen.

• The Life Events Checklist of the Clinician Administered PTSD Scale (Blake et al., 1990) was used to assess type, frequency, and ages of traumatic exposure. The Conflict Tactics Scale-2 (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) was used to assess partner violence using the Physical Assault subscale. A trauma composite was created by coding five types of interpersonal trauma (childhood traumas, events occurring before age 18, physical abuse, adult experiences after age 18, and sexual assault) as present or absent and summing the number of trauma types experienced.

• The Child Abuse Potential Inventory Form, VI (CAP; Milner, 1994) is a 160-item self-report questionnaire that assesses risk for child physical abuse. It has a third grade

readability level with a variety of subscales. Elevated scores on this scale have consistently been associated with problems in parent-child interactions and are risk factors of both concurrent and future physical abuse (Milner, 1994).

- The Parental Punitiveness Scale (PPS; Blane, Miller, & Leonard, 1988) is a 21-item self-report measure that assesses parental disciplinary style and potential for parental violence. Parents estimate their most frequent and likely response to scenarios in which children are misbehaving or acting aggressively. Discipline techniques ranging in degree of punitiveness from nothing to severe punishment with a lower score indicating more punitiveness.

- The Parent Child Conflict Tactics Scale (CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) was used to measure parental discipline practices using the Psychological Aggression and Physical Assault subscales. Prevalence scores are derived by coding all responses with a 0 or 1 dichotomy to indicate whether the disciplinary tactic was ever used. Chronicity scores measure how often in the past year a tactic was used among those who used it.

Procedure

- The sample of 176 mothers were recruited through an OB/GYN clinic at a large, urban, public hospital in New York City serving a primarily poor, minority population. They were taking part in a larger cross-sectional, cross-generational study.

- Inclusion criteria were a) age of participant between 18 and 55, b) at least one child aged 9 to 15 years, and c) willingness to participate in approximately 6 hours of interviews for the mother and 3 hours for the child. Exclusion criteria were a) a clear history of organic symptomatology, b) active AIDS, c) history of head trauma to mother or child, d) any serious physical ailment or chronic disease which would present participation in interviewing and e) diagnosis of a psychotic or bipolar disorder.

- During the 5-year study period, a total of 506 women presenting for treatment in the OB/GYN clinic were screened for study inclusion. In all, 314 (62%) met the eligibility criteria and were invited to participate.

- The mother completed an initial 3-hour interview and then returned on a second occasion with her child.

- Participant reimbursement was $100 and roundtrip travel expenses.

- Mothers were given measures of crystallized intelligence, psychiatric functioning, substance abuse, and treatment history. They also completed the parenting measures, answered questions about their child's functioning, and provided a urine sample.

- Diagnosis was determined by the Structured Clinical Interview for DSM-III-R/IV, which was conducted by experienced assessors.

- Based on the SCID results, women were categorized into four study groups based on their history of substance use disorder, depression, and PTSD: substance use disorder, depressive disorder, comorbid substance use and depressive disorder, and a control group without any history of depression, substance use or PTSD.

RESULTS

- There was a significant association between the interpersonal trauma category and study group, with the comorbid substance abuse-depression group reporting significantly greater overall exposure to interpersonal trauma than the control group and with the SUD and depressed groups falling in between. There was a significant association between childhood sexual abuse and group, with significantly more being reported in the SUD, depression, and comorbid groups than in the control group. There was also significantly more childhood physical abuse reported in the comorbid as compared to the control group.

- A one-way ANOVA found significant differences among the four groups on trauma composite scores, with the SUD, depression, and comorbid groups showing significantly greater levels of trauma exposure than the control group.

- One-way ANOVAs were computed to determine if there were differences on parenting measures across the four study groups. Results show that there were significant differences in the CAP inventory with the SUD, depression, and comorbid groups showing greater abuse potential than the control groups. There were, however, no significant differences among the four groups on any of the other three parenting measures.

- Pearson correlations were computed to assess the relation between cumulative trauma exposure and specific types of trauma exposure and parenting measures. The

trauma composite had the strongest associations and was significantly correlated with all four parenting measures, indicating that as trauma exposure increases, negative parenting scores also increase.

- Hierarchical multiple regression models were used to assess the value of the trauma composite and PTSD diagnosis as predictors of parenting outcomes after controlling for demographic, SUD, and depression variables. The trauma composite and PTSD diagnosis were entered in the third step of the regression, and accounted for 4% of the variability in CAP scores, 6% of the variability in psychological aggression scores, 3% of the variability in PPS scores and 9% of the variability in physical discipline scores. The trauma composite was the only significant predictor for each dependent variable, with the exception of physical discipline which was predicted by the trauma composite and PTSD diagnosis.

CONCLUSIONS/SUMMARY

- Findings support a significant relation between exposure to interpersonal trauma and parenting difficulties. Cumulative maternal trauma was a significant predictor of abuse potential, punitiveness, psychological aggression, and physical discipline, even after controlling for demographics and diagnostic variables.

- These results are consistent with the literature demonstrating that complex trauma is often associated with deficits across a range of life roles, including parenting behavior.

- The study also supported its prediction that participants in the SUD, depression, and comorbid groups would report significantly higher levels of exposure to interpersonal trauma than those in the control group. There were no differences between the 3 groups and the control group in terms of noninterpersonal trauma exposure.

- As expected, a lifetime diagnosis of substance use and depressive disorders were significant predictors of child abuse potential but were not significant predictors of punitiveness, psychological aggression, or physical discipline. Lifetime PTSD diagnosis was not significantly related to abuse potential, punitiveness, or psychological aggression; however, it was negatively correlated with physical discipline. A dissociative process may account for this finding.

- One interpretation for the finding that diagnostic status did not significantly predict harsher parenting strategies is that substance use and psychiatric disorder diagnoses could be considered proxies that indicate some significant underlying factor but by themselves may not be the best way to capture the range of problems and symptoms often associated with cumulative interpersonal trauma.

- In terms of emotion regulation, parenting problems may be conceptualized in terms of disturbances in emotion that are not specific to depression. Aggressive and coercive behaviors in mothers may account for negative affective states rather than depression or other specific disorders.

- Another way of understanding the lack of relation between diagnosis and three of the parenting outcomes is to consider assessment issues. For example, considering severity or number of symptoms of a disorder as opposed to dichotomous diagnostic variables may have yielded different findings and this study lacked a continuous measure of symptom severity.

CONTRIBUTIONS/IMPLICATIONS

- Strengths of the study were controlling for demographic variables (i.e., maternal IQ, SES, and age) that have been shown to be associated with parenting behavior, employing a variety of established and psychometrically sound measures of parenting behaviors, and a large sample size.

- The study adds to an important growing literature examining the impact of complex trauma on interpersonal functioning and the link between parental victimization and parenting behaviors.

- Evidence from the study suggests that parental trauma history is significantly associated with serious parenting problems and arrange of adverse child outcomes.

- There is a need for empirically based parenting skills curricula targeting specific trauma-related difficulties, such as regulating negative emotion and managing interpersonal conflict and power dynamics.

- More development and incorporation of trauma-specific interventions are needed to help parents understand how their traumatic experiences can negatively affect attitudes and behaviors to build a repertoire of alternative parenting strategies.

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TYPE OF ARTICLE

- Original empirical investigation

OBJECTIVE/PURPOSE OF THE ARTICLE

- The authors conducted a randomized controlled trial to evaluate an intervention they developed to treat PTSD in individuals with severe mental illness.

METHODS STUDY 1

Participants

- Out of 270 clients referred to the study, 108 met inclusion criteria, provided consent, and were randomly assigned to Cognitive-Behavioral Therapy (CBT) or Treatment as Usual group (TAU). There were no differences between the groups on any demographic, diagnostic, or baseline measures or in the rates of follow-up assessments.

- Inclusion criteria for participation were: a) minimum age of 18 years, b) designation by the states of New Hampshire or Vermont as having a severe mental illness, c) *DSM-IV* diagnosis of major depression, bipolar disorder, schizoaffective disorder, or schizophrenia, d) current *DSM-IV* diagnosis of PTSD, and e) legal ability and willingness to provide informed consent to participate.

- Exclusion criteria were a) psychiatric hospitalization or suicide attempt within the past 3 months and b) current *DSM-IV* substance dependence.

Materials

- Axis I psychiatric disorders other than PTSD were assessed with the Structured Clinical Interview for *DSM-IV* (SCID-I; First, Spitzer, Gibbon, & Williams, 1996) and borderline personality disorder was assessed with the SCID-II (First, Spitzer, Gibbon, Williams, & Benjamin, 1994). SCID assessments were only administered at baseline.

- History of trauma exposure was evaluated with the Trauma History Questionnaire (Green, 1996). PTSD diagnoses and symptom severity were based on CAPS (Blake et al., 1995), a widely used, semistructured interview for the assessment of PTSD. For each symptom, a frequency and intensity rating is provided, with overall severity scores computed by summing the frequency and intensity scores for all of the PTSD symptoms. Trauma-related cognitions were evaluated with the Posttraumatic Cognitions Inventory (Foa, Ehlers, Clark, Tolin, & Orsillo, 1999), a self-report measure of common negative beliefs about oneself, other people, and the world that frequently occur in people with PTSD. Understanding of PTSD was assessed with the PTSD Knowledge Test, which contains 15 multiple choice questions about PTSD.

- Overall psychiatric symptoms were assessed with the expanded version of the Brief Psychiatric Rating Scale

(Lukoff, Nuechterlein, & Ventura, 1986). Self-reported depression and anxiety were rated with the Beck Depression Inventory – II (Beck, Steer, & Brown, 1996) and the Beck Anxiety Inventory (Beck & Steer, 1990). Self-reported mental health and physical functioning were also assessed with the Short-Form – 12 (Ware, Kosinski, & Keller, 1994).

- The therapeutic alliance with the case manager was rated using the client version of the Working Alliance Inventory (Horvath & Greenberg, 1989).

Procedure

- All assessments were conducted by master's or Ph.D. level-trained clinical interviewers who were blind to treatment assignment. Assessments were conducted at baseline, following the 4- to 6-month treatment period for the CBT program, and 3 and 6 months later.

- All clients were receiving comprehensive treatment for their psychiatric illness at their local community health center and continued to receive those services throughout the study period, regardless of which treatment group they were assigned. Comprehensive mental health services included pharmacological treatment and monitoring, case management, supportive counseling, and access to psychiatric rehabilitation programs.

- Those assigned to the PTSD program participated in a 12-16 week structured program that provided handouts, worksheets, and homework assignments. Seven clinicians receiving weekly supervision conducted the CBT.

- Clients assigned to Treatment as Usual (TAU) continued to receive the services they had been receiving before enrolling in the program.

- Randomization to treatment groups was stratified by site and by the following three diagnostic groups: major mood disorder without borderline personality disorder ($N = 64$), major mood disorder and borderline personality disorder ($N = 27$), and schizophrenia or schizoaffective disorder ($N = 17$).

RESULTS

- The most common traumatic event clients reported that resulted in PTSD was childhood sexual abuse ($n = 37$, 34%), followed by childhood physical abuse ($n = 19$, 17%), the sudden unexpected death of a loved one ($n = 16$, 15%), adult sexual assault ($n = 14$, 13%) and adult physical assault ($n = 12$, 11%). Among the 54 clients

assigned to CBT, 44 (81%) were exposed to six or more treatment sessions and 38 (70%) completed the 12- to 16- session program.

- In terms of the authors' primary hypothesis, CBT was not more effective than TAU in eliminating the PTSD diagnosis, but was significantly better in reducing PTSD symptoms and negative trauma-related cognitions, and improving knowledge of PTSD. CBT was also more effective than TAU at reducing depression, anxiety, other psychiatric symptoms, and health-related concerns, as well as improving the working alliance between the client and case manager.

- Higher rates of homework completion were associated with greater improvements in symptoms, perceived mental health, negative trauma-related beliefs, and shorter time to complete therapy.

- An interaction effect was found for PTSD severity such that clients with severe PTSD benefited more from CBT than those with mild-moderate PTSD.

- Analysis testing whether changes in negative trauma-related beliefs mediated improvements in PTSD symptom severity following CBT showed that CBT had a significant effect on trauma-related beliefs (Step 1) and on PTSD severity (Step 2). Finally, when trauma-related beliefs was added to the statistical model, the effect of CBT on PTSD severity was no longer significant, whereas trauma-related beliefs and PTSD were highly significantly related (Step 3), supporting the hypothesis that changes in trauma-related beliefs over the course of CBT mediated reductions in PTSD symptom severity.

CONCLUSIONS/SUMMARY

- Clients in CBT improved significantly more than those in TAU on PTSD symptoms and a range of other outcomes, suggesting that despite the multitude of challenges faced by clients with severe mental illness and PTSD, CBT can be effective in reducing the severity of their symptoms.

- The interaction between PTSD severity and improvement with CBT suggests that the CBT program might better be directed at clients with severe PTSD, which is often three quarters of clients with severe mental illness and PTSD.

- Higher rates of homework completion contributed to better outcomes in the CBT program, including greater improvements in PTSD symptoms and diagnosis, post-

traumatic cognitions, depression, anxiety, and perceived mental health functioning, with effect sizes of .95 for PTSD severity, .97 for depression, and .65 for anxiety.

- The mediation analysis was consistent with the hypothesis that changes in negative trauma-related beliefs in CBT improved PTSD symptoms.

- While the CBT program led to significant improvements in PTSD and other symptoms, in the overall sample it did not result in significantly greater reduction of PTSD diagnosis, and symptoms remained in the moderate to severe range at posttreatment and follow-up clients who received CBT. The findings suggest that CBT results in clinically significant improvements for some clients, but many still experience persistent and severe symptoms.

CONTRIBUTIONS/IMPLICATIONS

- Over 90% of the clients who participated in this study had prior psychiatric hospitalizations and most were receiving Social Security entitlements because of their mental illness. Despite the chronic and disabled nature of the study population, they were successfully engaged in the CBT program, with a comparable dropout rate (19%) to PTSD treatment studies it the general population.

- Improvements in clients' working alliance with their case manager may be due to the effects of cognitive restructuring on challenging beliefs related to the pervasive interpersonal distrust often present in clients with PTSD, leading to improved trust in the case manager. Therapeutic alliance with the case manager has been shown to predict outcome in clients with severe mental illness. Thus, the findings suggest that CBT could improve the working alliance with case managers, which in turn could improve the course of psychiatric treatment.

- Given the magnitude of the effect sizes for homework completion on PTSD severity, depression, and anxiety, strategies for increasing homework adherence could be an important approach to maximizing treatment gains of clients in the CBT for PTSD program.

- Although PTSD symptoms in the CBT group improved, the fact that they continued to experience moderate-severe symptoms indicates that further work is needed to explore whether the CBT for PTSD model can be improved to make it more effective. For example, providing additional sessions for clients who have PTSD that does not remit in 12-16 sessions or incorporating exposure therapy into the approach.

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TYPE OF ARTICLE

- Original Empirical Investigation

OBJECTIVE/PURPOSE OF THE ARTICLE

- This study sought to better understand the relation between disturbed sleep and suicidality in adolescents in order to inform efforts at suicide prevention with this population.

METHODS
Participants

- The suicide completer group consisted of 140 adolescent suicide victims from 28 counties in Western Pennsylvania and represents 72% of all individuals assigned a definite verdict of suicide between the ages of 13 and 19 years.

- The families were contacted by letter approximately 3 months after the death and were called by the project coordinator a week later to schedule an interview.

- The 131 community controls were obtained by geographic cluster sampling of communities with similar median income, population density, racial composition, and age distribution to those of the study victims. Families with an adolescent were randomly selected and invited to participate. There was a 74% acceptance rate.

- The suicide victims had a mean age of 17.3 years (SD = 1.9), 95.7% were Caucasian, and 85% were male. The mean age of the control group was 17.5 years (SD = 1.7), 100% of whom were Caucasian and 70% were male.

Materials

- Current Axis I diagnoses were assessed with the Schedule for Affective Disorders and Schizophrenia for School-Aged Children–Present Episode version (K-SADS-P; Chambers et al., 1985) and Epidemiological version (K-SADS-E; Orvaschel, Puig-Antich, Chambers, Tabrizi, & Johnson, 1982), yielding individual item ratings for both

the worst period during the present episode of illness (PE) and the preceding week (LW). For nondepressed participants, PE ratings reflect the prior 12 months.

- Participants were considered to have a current affective disorder if they met full K-SADS criteria for any one of the assessed diagnoses.

- Sleep difficulties were assessed by consensus ratings of the six items pertaining to sleep from the K-SADS Depression section. A rating of "3" or higher was used to indicate that the problem was present and a participant was considered to have an overall sleep disturbance if any one or more of the items was rated "present".

- Depression severity was computed for all participants as a mean of 10 K-SADS depression items, excluding items that would be confounded with the analyses (items relating to sleep and suicidal ideation)

Procedure

- Parents, siblings, and friends of suicide completers were interviewed about the victim's current and past psychopathology and the circumstances surrounding the suicide. The primary informant included at least one parent or guardian with whom the adolescent resided.

- The controls and their parents participated in a semi-structured interview with a trained master's psychology student.

RESULTS

- Chi-square analyses indicate the rate of overall sleep disturbance was higher for suicide completers than controls, for both the week preceding death and the current depressive episode.

- Completers had high rates for both insomnia and hypersomnia for the last week (LW) as well as the past episode (PE).

- Controlling for differences between groups in the rate of current affective disorder (48% of completers vs. 10% of controls), the rate of overall sleep difficulties remained significantly higher among completers for both the LW and the PE. Over and above the effects of current affective disorder, completers were more likely to have insomnia and/or hypersomnia in the LW but not the PW.

- Gender did not emerge as a significantly moderator of the associations between sleep disturbance and suicide when controlling for current affective disorder.

- Suicide completers had higher depressive severity scores than the controls for both LW and PE. Adjusting for depressive severity, the rate of overall sleep difficulties remained significantly elevated in completers for the LW and PE with higher rates of insomnia for the LW but not the PE. In contrast, differences between groups in the rate of hypersomnia were no longer different after controlling for depressive severity.

CONCLUSIONS/SUMMARY

- The findings of this study support a clear relationship between sleep difficulties and completed suicide among adolescents, with suicide completers exhibiting higher rates of overall sleep difficulties as compared with community controls both within the week preceding suicide and within their most recent depressive episode.

- The suicide group was distinguished from the control group with higher rates of insomnia and hypersomnia in the week preceding suicide, even while controlling for the differential rate of affective disorder between groups.

- After controlling for depressive severity, suicide completers remained 10 times more likely to have sleep difficulties within the present affective episode, 4 times more likely to exhibit sleep problems in the week preceding death, and 5 times more likely to exhibit insomnia the week before death.

CONTRIBUTIONS/IMPLICATIONS

- The fact that PTSD can be effectively treated with an intervention focusing solely on behavioral avoidance raises questions about the need for other interventions often used in CBT programs.

- The study supports a strong link between sleep disturbance and suicidality in adolescents.

- The two groups demonstrated similar rates of sleep pattern changes in the preceding week; however, more suicide completers exhibited a worsening of symptoms in the final week.

- Although previous authors did not find increased insomnia in adolescents with suicidal ideation after controlling for depressive symptoms, the time frame used to assess sleep symptoms was one month. In the current study, insomnia in the last week, but not the present depressive episode, distinguished the groups in the analyses controlling for depressive severity.

- The mechanism for this relation remains to be established. Several possibilities include that sleep disturbances increase suicidal risk in vulnerable individuals by impairing cognitive functions such that processes including judgment and concentration are compromised. Similarly, fatigue resulting from sleep difficulties may lead to hopelessness and decreased impulse control. Sleep deprivation may also impair problem solving ability, coupled with decreased capacity to regulate emotional states when tired vulnerable adolescents may utilize limited alternatives for coping with distress. Alternatively, sleep deprivation may activate or exacerbate susceptibility to psychopathology.

- Sleep difficulties in adolescents at risk for suicide should be regularly assessed, as such disturbances may render the individual vulnerable to suicide over and above the vulnerability conferred by the presence and severity of an affective disorder.

- Any acute changes in sleep patterns should alert clinicians to carefully consider safety concerns.

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TYPE OF ARTICLE

- Correlation study of the relationship between childhood abuse and nonsuicidal self-injury.

OBJECTIVE/PURPOSE OF THE ARTICLE

- The authors investigated if two specific PTSD symptom clusters mediate the relation between childhood abuse and nonsuicidal self-injury (NSSI).
- It was hypothesized that individuals who experienced childhood abuse may engage in NSSI to manage the manifestations of emotional dysregulation that commonly follow trauma.
- Reexperiencing symptoms (recurrent, distressing, intrusive thoughts or images of the traumatic event) will mediate the relation between abuse and NSSI.
- Avoidance/numbing (effortful avoidance of thoughts, feelings, places and people associated with the trauma) will mediate the relation between abuse and NSSI.

PROCEDURE

Participants

- Eighty six adolescents ranging in age from 12 – 19 years ($M = 17.03$, $SD = 1.92$) completed all the measures in the study.
- Both self-injurers and non self-injurers were included in the study but the self-injurers group was larger ($n = 56$) than the non self-injurers group ($n = 30$).
- Participants in the study were 73% Causasian, 3% African American, 7% Latino, 5% Asian, and other for the remaining 12%.

Procedure

- Adolescents were interviewed and assessed without their parents present in order to increase the chances of candid responses.

Measures

- Childhood abuse was assessed using the Child Trauma Questionnaire that assesses five different areas of maltreatment (physical abuse, sexual abuse, emotional abuse, physical neglect, and emotional neglect).
- The Self-Injurious Thoughts and Behaviors Interview assesses nonsuicidal self-injury by tracking both the presence and frequency of suicidal behaviors.

- PTSD symptoms were assessed using the Kiddie Schedule for Affective Disorders and Schizophrenia- Present and Lifetime Version (K-SADS-PL). Present symptoms were focused on rather than lifetime symptoms.
- The presence of major depression (MDD) was investigated in order to control for this variable in data analysis.
- The Structured Clinical Interview for DSM-IV-II was used to assess for Borderline Personality Disorder symptoms.

RESULTS

- Female participants who engaged in NSSI were more likely to participate pick wounds when compared to males who engaged in NSSI ($F(1,54) = 4.59$, $p < .05$).
- Sexual abuse was significantly associated with the presence ($r = .26$, $p < .05$) and frequency ($r = .32$, $p < .01$) of NSSI as well as PTSD symptom clusters (reexperincing $r = .28$, $p < .01$; avoidance/numbing ($r = .26$, $p < .01$).
- Major Depressive Disorder ($p = .89$) and Borderline Personality Disorder ($p = .056$) were not correlated with NSSI frequency.
- Sexual abuse ($p = .019$) was significantly associated with NSSI after controlling for Major Depressive Disorder and Borderline Personality Disorder.
- MDD ($p = .041$), reexperiencing ($p = .021$), and avoidance/numbing ($p = .024$) were significantly associated with NSSI when controlling for borderline personality disorder and sexual abuse.
- Reexperiencing symptoms mediated the relation between sexual abuse and NSSI frequency (Sobel z-value = 2.15)
- Avoidance/numbing symptoms mediated the relation between sexual abuse and NSSI frequency (Sobel z-value = 3.44)

CONCLUSIONS/SUMMARY

- In a retrospective study, childhood sexual abuse was associated with NSSI during adolescence.
- Non-sexual abuse was not associated with adolescent NSSI.
- Reexperiencing symptoms of PTSD mediated the association between childhood sexual abuse and NSSI.
- Avoidance/numbing symptoms of PTSD mediated the association between childhood sexual abuse and NSSI.

LIMITATIONS

- The data are cross-sectional making it difficult to draw inferences across the constructs.

- The study was retrospective making it difficult to ensure the accuracy of childhood sexual abuse reporting.

- The sample size may be considered relatively small.

Kleim, B., Ehlers, A. (2008). Reduced autobiographical memory specificity predicts depression and posttraumatic stress disorder after recent trauma. *Journal of Consulting and Clinical Psychology, 76*(2), 231-242.

TYPE OF ARTICLE

- Prospective longitudinal study

OBJECTIVE/PURPOSE OF THE ARTICLE

- The purpose of the study was to examine autobiographical memory retrieval in individuals recently injured in a violent assault.

- The authors hypothesized that assault survivors with major depression and Acute Stress Disorder (ASD) would retrieve fewer memories when compared to assault survivors without major depression or ASD.

- Memory specificity at two weeks would predict major depression and PTSD at six months post- assault.

- Additionally, memory specificity at two weeks was investigated in order to see if it predicted major depression and PTSD beyond initial symptoms.

- The authors also investigated if rumination and perceived permanent change would mediate the influence of over generalized memory (OGM) on depression and PTSD.

- The history of childhood abuse, history of major depression, sex, and ethnicity were considered as moderators in the relationship between memory specificity and posttrauma psychopathology.

- The affect regulation hypothesis suggests that exposure to stressful events is a precursor to OGM. However, research findings between trauma and OGM are inconsistent and suggest that OGM may not be the re-

sult of trauma. Difficulty with autobiographical memory retrieval may make it difficult for trauma survivors to come to terms with the trauma they experienced.

- Additionally, research suggests that OGM plays a role in the maintenance of depression and it is not clear if OGM plays a role in the maintenance of PTSD.

PROCEDURE

Participants

- There were 203 participants recruited from the emergency department of a large urban teaching hospital between July 2003 and December 2004.

- Individuals who were not able to speak English fluently, with current psychosis or substance dependence, or were not able to remember the assault were excluded.

- The majority of participants had been physically assaulted ($n = 200$) and a few had been sexually assaulted ($n = 3$).

- After 6 months, 190 participants completed the Autobiographical Memory Test (AMT).

- The participant sample did not significantly differ from patients who presented at the emergency department of the hospital with regard to age, sex, or severity of injuries. However, participants in the study were 57.6 % Caucasian while assault survivors presenting at the emergency department were 36.9% Caucasian. This difference is attributed to the study requirement that individuals were fluent in English.

Procedure

- Assault survivors were mailed information about the study and invited to participate in the research session two weeks after the assault.

- At the research session, participants provided details about their assault, gave a short trauma narrative, completed a picture identification task, and completed questionnaires. Participants then completed the AMT which was followed by a diagnostic interview.

- After six months, participants completed the Structured Clinical Interview for DSM-IV (SCID) over the telephone.

- Participants were reimbursed £ 50 ($97).

Measures

- In the AMT, participants were shown 12 cue words (6 positive and 6 negative) and asked to briefly recall a

specific personal memory in response to the cue word in 30 seconds. If a memory was not given in this time frame, a score of omission was recorded. Memories were also recorded as assault related.

- Criteria for major depression, ASD, specific phobia (assault related) were established using the SCID and Acute Stress Disorder Scales- Interview Version (ASDS). The SCID allows for a diagnosis of major depression to be made as well as severity to be assessed. The ASDS rates the presence of ASD symptoms in order to determine if a diagnosis of ASD is warranted as well as the severity of the disorder.

- The Assault Phobia Questionnaire was used to investigate for the presence of Specific Phobia.

- The Diagnostic and Statistical Manual of Mental Disorders (DSM) uses a hierarchal rule that a phobia may not be diagnosed if it was better accounted for by PTSD. This rule was not adhered to in order allow for investigation of the presence of specific phobia.

- After six months, the SCID modules for PTSD, major depression, and assault-related phobia were administered via telephone.

- The Response to Intrusion questionnaire assesses dysfunctional cognitive strategies used to combat intrusive memories.

- Participants were asked to complete the Rumination subscale in order to understand how assault survivors coped with assault related memories.

- · The Posttraumatic Cognitions Inventory measured trauma-related thoughts and beliefs which discriminate between trauma survivors with PTSD from survivors without PTSD.

- Premorbid intelligence levels were assessed using the National Adult Reading Test.

- In order to assess history of childhood abuse and adult trauma, participants were asked if during childhood they had been physically abused or experienced unwanted sexual experiences.

RESULTS
Diagnoses

- After two weeks, 18.7% of participants had major depression, 16.7% had ASD and 23.6% had an assault related phobia.

- After two weeks, 36.8% of participants who had major

depression, indicated they had become depressed after the assault and 63.2% indicated they had felt depressed before the assault. However, all reported that their depression had increased since the assault.

- At two weeks, 41% of the participants who had ASD also had major depression and 37% of participants with major depression also had ASD.

- After six months, 16.3% of the participants had major depression, 24.2% had PTSD, and 20.0% had an assault-related specific phobia.

- At six months, 43% of participants with PTSD also had depression, and 64% of participants with major depression also had PTSD.

Differences in Memory after 2 Weeks

- After two weeks, participants retrieved $M = 7.63$ ($SD = 2.51$) specific memories after 12 trials (positive cues $M = 3.81$, $SD = 1.47$; negative cues $M = 3.82$, $SD = 1.46$).

- Memory specificity was found to be significantly lower in participants who had major depression and those that did not ($F(1, 201) = 6.08$, $p = .014$, $\eta^2_p = .029$).

- Participants with ASD had lower memory specificity when compared to those without ASD ($F(1, 201) = 3.98$, $p = .047$, $\eta^2_p = .019$).

- There were no significant differences in memory specificity between individuals with assault related phobia and those without assault related phobia ($F(1, 201) = 0.17$, $p = .681$, $\eta^2_p = .001$).

- In all diagnostic groups participants produced more assault-related memories when presented with a negative word than when presented with a positive word (all $ps < .001$; all $\eta^2_p > .133$). Specifically, the ASD group gave more assault-related memories than participants without ASD ($M_{ASD} = 61.27$, $SD = 38.02$; $M_{NOASD} = 42.13$, $SD = 42.78$). The interaction between valence and depression, and valence and phobia participants was nonsignificant (both $ps > 570$; both $\eta^2_p < .002$).

- Participants with depression produced more omissions in response to positive cues when compared to participants without depression ($F(1, 201) = 3.42$, $p = .066$, $\eta^2_p = .017$).

Prediction of PTSD, Major Depression, and Specific Phobia at 6 Months

- For PTSD, ASD symptom severity at 2 weeks was forced into the regression and explained 43% of the variance

$(\chi^2(1, N = 190) = 64.33, p < .001$, Nagelkerke $R^2 = .43)$. Low memory specificity significantly improved the prediction $(\chi^2(1, N = 190) = 7.04, p = .008$, total Nagelkerke $R^2 = .47, \Delta R^2 = .04)$.

- For major depression, depression severity at two weeks was forced into the regression and explained 13% of the variance $(\chi^2(1, N = 187) = 14.59, p < .001$, Nagelkerke $R^2 = .13)$. Again, low memory specificity significantly improved the prediction $(\chi^2(1, N = 187) = 7.45, p = .006$, total Nagelkerke $R^2 = .19, \Delta R^2 = .06)$.

- For specific phobia at six months, phobia severity at two weeks was forced into the regression in the first step and explained 27% of the variance $(\chi^2(1, N = 187) = 32.59, p < .001$, Nagelkerke $R^2 = .27)$. Low memory specificity did not significantly add to the prediction $(\chi^2(1, N = 187) = 1.45, p = .230$, total Nagelkerke $R^2 = .28, \Delta R^2 = .01)$.

- Memory specificity predicted both PTSD and depression over and above initial ASD and depression diagnoses (PTSD $\chi^2(1, N = 190) = 7.29, p = .008$, total Nagelkerke $R^2 = .292, \Delta R^2 = .047$; Depression $\chi^2(1, N = 190) = 6.23, p = .014$, total Nagelkerke $R^2 = .229, \Delta R^2 = .046)$.

OGM Correlations

- OGM at two weeks predicted both PTSD and major depression at six months over and above predictions taking into account intelligence and severity of assault (PTSD $\chi^2(1, N = 181) = 3.68, p = .055, \Delta$ Nagelkerke $R^2 = .029$; Depression $\chi^2(1, N = 181) = 5.76, p = .016, \Delta$ Nagelkerke $R^2 = .052)$.

- Sex, childhood abuse and ethnicity did not moderate the effect of specificity on PTSD or depression (all $ps > .11$).

- History of depression prior to the assault significantly moderated the effect of memory specificity on the severity of depression ($\beta = -.19, p = .042$).

- For both PTSD and depression, the amount of variance explained by memory specificity was reduced when rumination or perceived permanent change was included in the regression (all $ps < .042$).

CONCLUSIONS/SUMMARY

- At two weeks assault survivors with ASD generated fewer autobiographical memories when compared to survivors without ASD.

- Participants with depression had less memory specific-

ity than those who did not have depression.

- Low memory specificity at two weeks predicted chronic PTSD and major depression at six months above what was expected for symptom severity.

- Sex, ethnicity, and history of childhood abuse did not interact with OGM in predicting PTSD or depression at six months.

- Overgeneralized memory correlated with the severity of the assault.

- A history of major depression prior to the assault moderated the relationship between OGM and major depression.

- Low memory specificity was related to greater rumination about trauma and greater perceived permanent change.

LIMITATIONS

- It is unclear whether low autobiographical memory specificity is a predisposing factor or a consequence of the trauma.

- There was a high comorbidity among the disorders thus making it difficult to demonstrate specificity.

- The diagnoses at six months were based on a SCID conducted over the telephone.

- The sample primarily consisted of physical assault survivors.

Ellis, B. H., MacDonald, H. Z., Lincoln, A. K., Cabral, H. J. (2008). Mental health of Somali adolescent refugees: The role of trauma, stress, and perceived discrimination. *Journal of Consulting and Clinical Psychology, 76*(2), 184-193.

TYPE OF ARTICLE

- Correlation study of the relationship between trauma exposure, post-settlement stressors, perceived discrimination and symptoms of PTSD and depression.

OBJECTIVE/PURPOSE OF THE ARTICLE

- The purpose was to examine the perceived discrimination and PTSD and depression symptoms in a sample of refugee adolescents.

- The authors hypothesized that higher PTSD and depression symptoms would be associated with greater numbers of traumatic events.

- Additionally, higher levels of resettlement stress would be associated with more PTSD and depression symptoms.

- Finally, perceived discrimination would be associated with greater PTSD and depression symptoms after controlling for post-settlement stress.

- Under the developmental psychopathology model, adolescent functioning can be considered a trajectory that builds on past experience while forming a foundation for the future.

- Post-resettlement literature emphasizes the role of acculturative stressors as well as the association between perceived discrimination and mental health outcomes.

- Acculturative stressors and perceived discrimination may make it difficult for adolescents to achieve developmentally important milestone such as developing autonomy and self- identity.

PROCEDURE

Participants

- 135 adolescent-parent dyads self -identified as Somali or Somali Bantu and 98% self-identified as practicing the Muslim religion.

- Adolescents ranged in age from 11 to 20 years ($M = 15.4$, $SD = 2.2$), were born outside of the United States, but resided in the US for 1 year and were fluent in English.

- The sample consisted of 84 boys and 51 girls who have lived in the United States for an average of 5.4 years ($SD = 3.3$).

- Over 82% of caregivers who responded were female and 64% identified themselves as mothers. Of the caregivers, 24% were fluent in English.

Procedure

- Caregivers were interviewed by a Somali interviewer in Somali while adolescents were interviewed separately by a non-Somali in English.

- Interviews lasted between 1.5 and 3 hours.

- All measures were administered orally to participants.

Measures

- Scores from the UCLA PTSD Index were used to assess PTSD symptoms in adolescents who experienced traumatic events. This scale yields an overall PSTD severity score as well as subscales for reexperienceing, avoidance, and increased arousal.

- The Depression Self-Rating Scale assessed depressive symptoms in adolescents.

- The War Trauma Screening Scale is checklist of violence and adversity experienced in the context of war. Twenty-six of the original 72 the items were found to be relevant to Somali adolescents. Items were adapted to assess when the adolescent was exposed to trauma as well as ascertain the timing of the trauma.

- Post-war difficulties such as housing, financial, and interpersonal problems were assessed with the Adolescent Post-War Adversities Scale.

- Caregivers were asked to rate their level of fluency with the English language.

- Adolescents were also asked to rate how satisfied they were with their housing based on family need.

- The Acculturative Hassles Inventory measures stressors across four domains- school, peers, language, and family. Only the Family Hassles subscale was administered, as it measures issues most salient to adolescents.

- Adolescents were asked about the frequency with which they experience routine, minor acts of discrimination in everyday settings on the Every Day Discrimination measure.

RESULTS

- There was a modest positive correlation between PTSD symptoms and depressive symptoms ($r = .64$, p < .01), trauma exposure ($r = .48$, $p < .01$), post-war hardships ($r = .51, p < .01$),, acculturative hassles ($r = .45, p < .01$), and perceived discrimination ($r = .47, p < .01$).

- Additionally, there was a small negative correlation between PTSD and housing adequacy ($r = -.16, p < .05$).

- Trauma exposure was most strongly associated with PTSD symptom severity; however, post-resettlement stressors, acculturative stressors, and perceived discrimination all significantly contributed to the prediction of PTSD symptoms. This remained even after accounting for trauma and key demographic variables.

- For depression symptoms, trauma was not as strongly

associated as with PTSD symptoms.

- Perceived discrimination was the variable most strongly associated with depressive symptoms.
- The number of years spent in the US was negatively correlated with depressive symptoms.
- Post-resettlement stressors and acculturative stressors were not related to depressive symptoms.

CONCLUSIONS/SUMMARY

- Trauma exposure remained the strongest predictor of PTSD with adolescent Somali refugees resettled in the US.
- The importance of post-resettlement factors, acculturative factors, and perceived discrimination each independently contributed to the severity of PTSD factors underscoring the importance of environmental factors on the emotional health of refugees.
- Perceived discrimination was the strongest predictor of depressive symptoms in this sample.
- Mental health outcomes continue to be influenced by environmental factors after other stressors have been taken into account.

LIMITATIONS

- The data are cross-sectional making it impossible to determine the direction of the relationship between mental health symptoms and post-resettlement experiences. Longitudinal studies are necessary to clarify this.
- PTSD symptoms and depressive symptoms were assessed using screening measures rather than diagnostic interviews.
- PTSD and depression symptoms were correlated in this study making it difficult to distinguish if this reflects two distinct disorders or variant of the same underlying disorder.
- It is not clear if these results are generalizable to other populations as only Somali adolescents were included in this study.
- Further research in the role of socioeconomic factors on mental health issues will be beneficial in targeting interventions.

From Difficult to Disturbed: Understanding and Managing Dysfunctional Employees

By Laurence Miller, Ph.D.
American Management Association, 2008, 240 pages, Hard cover, $22.00
Edina, MN: Beaver's Pond Press, 2006, 130 pages, Soft cover, $20.00
Order from www.seedsofhopebooks.com or 1-800-901-3480

From Difficult to Disturbed is a reference guide to personality styles, written for executives, managers, and supervisors. The author states in his preface, "I don't want this to be another murky tome you'll thumb through once and then consign to bookshelf purgatory…the book you hold in your hand is a practical resource that you can refer to again and again as you confront the challenges of a complex workplace filled with complex, real live people (p. xi)."

One of the purposes of this book is prevention of workplace crises through understanding of, and early intervention in, work dynamics, including personality traits, types, and disorders. The author asserts that hindsight (analysis of past events) can lead to insight, which in turn can lead to developing new courses of action for the next incident, or foresight.

To this end, the first half of the book details traits, thinking styles, perceptions, and work styles for a wide variety of personalities. Brief case studies effectively illustrate the author's descriptions and recommendations.

Using the chapter on avoidant personalities as an example, the author describes how the person with avoidant traits thinks, and describes common traits. Avoidant personality types typically think, "Keep a low profile. Don't make waves." They will likely feel inadequate, socially inhibited, and hypersensitive to criticism. Overall, they are reliable and compliant workers, but may often be described as "likeable" and "wallflowers." These employees may struggle with social engagements, becoming entrapped in cycles of feeling uncomfortable talking with clients, which leads the client to become uncomfortable, which the employee senses, so the employee becomes even more uncomfortable. Understanding this cycle allows managers and supervisors to work with the avoidant employee and develop effective countermeasures to help them succeed.

Later in the chapter, the author describes the typical experience of working for an avoidant boss, and suggests how to adapt to the avoidant aspects. The next section describes the avoidant employee, and offers suggestions for successfully managing them. For example, when employers are working with an avoidant employee, the author recommends keeping "supervision light, more in line with coaching and counseling approach."

The chapter concludes by describing avoidant bosses/employees, with recommendations for being as productive as possible. For example, the author recommends the avoidant boss schedule regular supervisory sessions (which are likely to be uncomfortable for the avoidant boss) to allow time to plan and prepare. Further, prepare for meetings by developing a written protocol to follow. Continuing the theme of planning, the author recommends developing a file of workplace scenarios and responses, thus allowing preparatory time before the actual situation occurs. He also recommends finding a sympathetic mentor with which to brainstorm.

If you are the avoidant employee, the author similarly recommends preparation in order to reduce anxiety. He also recommends listening attentively to the person speaking, then responding naturally, rather than focusing internally on developing your response to the speaker, which leads you to miss what the speaker is actually saying.

The second section of *From Difficult to Disturbed* addresses mental disorders, and offers recommendations for effectively approaching the challenges these employees present. The author reassures the reader that, as managers, in cases where the employee's behavior becomes disruptive, their best course of action may be to refer the employee to mental health professionals. However, he adds that the manager/supervisor still plays an important role in the employee's life at work.

Dr. Miller addresses a variety of situations in this section, including dealing with employees struggling with anxiety, depression, suicidal thoughts/plans, substance abuse, and neuropsychological syndromes such as dementia, epilepsy, and traumatic brain injuries.

The third section focuses on workplace misconduct and marginal performance. The author presents a systematic model of employee selection, training, and management based on his experience working with law enforcement and public safety agencies. His recommendations span the gamut from basic screen-in and screen-out protocols to discipline and termination.

This section also addresses workplace violence. The author repeats his principle that "the best form of crisis intervention is crisis prevention." He notes the statistic that although homicide is the number one killer of women and the third leading cause of death for men in the workplace, for every one workplace homicide, there are over 100 nonfatal acts of violence such as fistfights, assaults, bullying, and harassment. The author offers specific suggestions for defusing a potentially dangerous situation, focusing on safety issues, body language, and communication style and content. He concludes the section with recommendations for recovering from incidents of workplace violence.

The last section describes elements of good leadership, especially relating to both daily challenges and command decision making. The author concludes with guidelines for managing organizational stress for managers.

From Difficult to Disturbed is a valuable tool for managers, supervisors, human resource administrators, risk-managers, and EAP coordinators.

Laurence Miller, Ph.D. is a clinical and forensic psychologist, educator, author, speaker, and management consultant. He maintains a private practice in psychology and works extensively with law enforcement, the judicial system, social service agencies, and private corporations. He conducts local, regional, and national continuing education programs and training seminars for mental health and legal professionals, executives, managers, and employees. Dr. Miller is the author of more than 200 print and online publications pertaining to the brain, behavior, health, criminal justice, civil law, business management, and organizational psychology.

The Elements of Disaster Psychology: Managing Psychosocial Trauma
by James L. Greenstone
Publisher: Charles C. Thomas, Springfield, Illinois 2008, 288pp.

Reviewed by Laurence Miller, PhD

Many mental health and emergency service personnel recall that one of the less laudable aspects of the disaster response to the 1994 Oklahoma City bombing was the uncalled and uncoordinated convergence of scores of mental health clinicians and volunteer debriefers from around the country, creating – unintentionally and certainly well- meaningly – a second minidisaster as accommodations and resources had to be found for this new population. Overpromotion of services by untrained interveners became such a problem that reports emerged of firefighters and rescue personnel wearing signs, saying "Go Away, I've Been Debriefed." By 2001, training and service coordination had

improved to the point that, when emergency mental health personnel were needed to aid victims and rescuers at the World Trade Center disaster in New York, most observers felt that the response was well-planned and effectively implemented.

The lesson here is that good intentions – and even top-notch clinical skills – are not enough if insufficient attention is paid to the nuts-and-bolts practicalities of planning, coordinating, and implementing the disaster response. If the devil is in the details, then Jim Greenstone has got the old boy on the run in his new book on *The Elements of Disaster Psychology*. "Elements" describes this book in two ways, first by content, as a compendium of basic principles and practices of mental health disaster response, and second, in terms of structure, in that the entire volume consists almost entirely of lists, charts, and tables, useful at first for delineating important points, but after awhile bordering on becoming a mind-numbing succession of numerals and bullet points.

The book begins by describing the basic principles of disaster management. A theme that runs through this volume is the vital importance of coordinating mental health services with other operational components of the rescue effort: mental health clinicians who are used to being the bosses in our little clinical offices are often shocked and dismayed when they show up at the site of a disaster, expecting to be treated like royalty, but then relegated to the sidelines or offered more mundane duties. Sorry doc, before you can conduct your debriefing groups and do your stress management exercises, we've got to stop the bleeding, pile the sandbags, and hand out the sandwiches – want to help? Mental health responders to any type of critical incident must learn to be team players, sometimes even secondary or ancillary members of the team. The overall goal is coordination of services, because without this organization, rescue and recovery efforts will be wasted.

Subsequent chapters deal with response mobilization and call-out, what happens when you arrive at the disaster site, and the types of stress intervention services provided. A particularly important topic is a discussion of psychologi-cal triage, determining priorities for treatment and what kinds of intervention (debriefing, individual counseling) are most appropriate for which individuals (victims, relatives, rescue personnel) at which times (before deployment, during rescue and recovery operations, in the immediate and/or long-term aftermath). In other words, one size does not fit all, and mental health responders must possess a range of intervention skills that they can apply efficiently and flexibly to a range of critical incident and mass casualty situations.

Interventions discussed in this book include taking care of victims, dealing with parents and children, handling suicidal crises, and the appropriate use of communication skills. It is probably here that the tabular format of this book is least effective in conveying how clinical skills can be fruitfully applied – one wishes the author would have illustrated some of his points through a more narrative expositional style. In addition, this book may be trying to do too much, to be both an operations manual and a clinical guide. In this endeavor, while it excels at the first, it appears to scrimp on the second and readers should consult more comprehensive clinical guides – including many of the author's own previous works, listed in the book's bibliography – to flesh out the clinical bullet points made in the present volume.

Still, it is these very bullet points, charts, tables, and numbered lists that are the elemental nuggets of this obsessively (in the good sense) detailed operational compendium for mental health disaster responders. It is hard to imagine any item left out by this book, including what clothing to pack, how to access and follow local rules and ordinances, types of shelter, and how to deal with injured pets (did you know you're not supposed to give aspirin to cats? Me neither).

While this is not the only book you should have on your shelf if you are a mental health disaster responder, it is certainly an indispensable one. These "elements" of disaster psychology add up to a tough, resilient alloy of practical confidence that will allow the mental health responder to utilize his or her clinical skills effectively with minimum distraction by unplanned events and unintended consequences.

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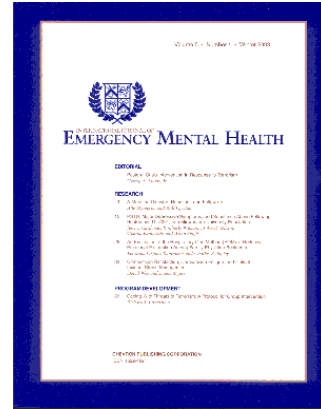
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