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Editorial

Tornados and terrorists. Hurricanes and hate crimes. Today's news is filled with catastrophes that are both natural and man-made, and in many cases, emergency mental health and other public safety professionals are called upon to respond. This issue provides a wealth of theoretical insights and practical applications concerning traumas and tragedies that are inflicted upon us both my Mother Nature and our fellow human beings.

Noffsinger and colleagues present Part I of a two-part series on understanding and treating the effects of disasters on children, especially as these events impact on the child's complex and interconnected social environments. The importance of social environments in the behavior by disaster victims is highlighted in Aten and colleagues' article describing help-seeking activities in a sample of church attendees following Huricane Katrina. Both articles illustrate the importance of making mental health services both salient and accessible in order to get people to recognize and utilize these resources.

The people who provide these services – first responders and other intervention professionals – are frequently overburdened and affected by the work they do, and this may lead to dysfunctional behavior such as alcohol abuse in some of these personnel, a process that is carefully delineated by Homish and Frazer's article in the case of firefighters following a major critical incident. But many public safety professionals will tell you that often it's not just a single "big one" that overwhelms one's coping resources. Just as corrosive to morale can be a series of stressors that build up and summate over time, and an innovative application of the critical incident debriefing process for cumulative traumas in law enforcement officers is described in the article by Young.

The gravest toll that isolated or cumulative stress can have on a public safety responder such as a police officer is the dark despondency that leads to suicide. The problem is that many of these guys and gals have the kind of personalities that are reluctant to admit a problem until it's too late. Violanti discusses the theoretical rationale for a new instrument, the Implicit Association Test, for detecting suicidal cognitions in law enforcement personnel. Police personalities come into play in saving other people's lives as well, as shown by Grubb and Brown's exploration of the role of hostage negotiators' personality and cognitive style in mediating the success of these life-and-death transactions.

As usual for IJEMH, the articles in this issue integrate theory and practice to expand both our scholarly knowledge base in the field of emergency mental health, and the well-validated intervention techniques that emerge from them.

Laurence Miller, PhD, Editor

Fostering
Human Resilience

GEORGE S. EVERLY, JR., PHD, ABPP

The promotion of human resiliency represents a relatively new approach to dealing with mental health issues associated with crisis and disaster. It is generally accepted that psychological casualties invariably far exceed physical casualties in the wake of disaster, thus reliance upon traditional mental health resources to address such needs seems inadequate. General hesitance to seek such services, even when available, compounds the problem. Finally, there is evidence that public health and emergency response resources will be available in lower numbers than expected, at all levels within the system and throughout the continuum of care. A new approach is needed. That approach, we argue, must be a system based upon the promotion of human resilience.

Resilience is typically defined as the ability to withstand, adapt to, or rebound from challenges and adversity. This brief treatise is offered as a simple primer for any and all personnel who are likely to respond to, or in the wake of, crisis and disaster.

The reader will be introduced to three mechanisms designed to enhance resiliency:

- Psychological Body Armor - promoting personal resilience;

- Psychological First Aid (PFA) – promoting resilience in other individuals;

- Resilient Leadership – promoting resilience in groups;

- Critical Incident Stress Management – a systems approach to resiliency; and

- Pastoral Crisis Intervention – harnessing the power of the Faith Community

This book is especially directed to first responders, first receivers, public health and safety, and military personnel. It is designed to be a quick, practical, and informative guide to human resiliency in the wake of crisis and disaster.

The Burden of Disaster: Part I.
Challenges and Opportunities Within a Child's Social Ecology

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Abstract: *Child development and adaptation are best understood as biological and psychological individual processes occurring within the context of interconnecting groups, systems, and communities which, along with family, constitute the child's social ecology. This first of two articles describes the challenges and opportunities within a child's social ecology, consisting of Micro-, Meso-, Exo-, and Macrosystems. The parent-child relationship, the most salient Microsystem influence in children's lives, plays an influential role in children's reactions to and recovery from disasters. Children, parents, and other adults participate in Mesosystem activities at schools and faith-based organizations. The Exosystem—including workplaces, social agencies, neighborhood, and mass media—directly affects important adults in children's lives. The Macrosystem affects disaster response and recovery indirectly through intangible cultural, social, economic, and political structures and processes. Children's responses to adversity occur in the context of these dynamically interconnected and interdependent nested environments, all of which endure the burden of disaster. Increased understanding of the influences of and the relationships between key components contributes to recovery and rebuilding efforts, limiting disruption to the child and his or her social ecology. A companion article (R. L. Pfefferbaum et al., in press) describes interventions across the child's social ecology. [International Journal of Emergency Mental Health, 2012, 14(1), pp. 3-13].*

Key words: *child development, children, disasters, mental health, social ecology, terrorism, trauma*

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Research has established children's vulnerability to disasters and has begun to elucidate the myriad factors that influence their reactions in the near- and long-term (e.g., Norris et al., 2002; Silverman & La Greca, 2002). In fact, nearly 30 years of research have identified an abundance of individual, family, and social factors that are potentially linked to children's disaster outcomes. Unfortunately, large gaps remain in what we know about the relative influence of each factor and the course of disaster-related reactions in children. These knowledge gaps undermine the advancement of theory and impede the development of effective services for children and their families.

Child development and adaptation are best understood in the context of the interconnecting groups, systems, and communities which, along with family, constitute the child's social ecology. As articulated by Waller (2001), development and adaptation do not exist in a vacuum; rather, the social environment significantly influences children's risk for maladjustment as well as their propensity for recovery and resilience. The child's most immediate context is that of the family, but children belong to numerous and diverse groups, systems, and communities that interact with each other to influence development and adaptation in general and with respect to disasters.

The vast social ecology encompassing individuals, families, systems, and communities is characterized by both structural and functional properties, which are especially relevant when considering the impact of a disaster on the child. Structural components of the child's disaster social ecology include the child (e.g., demographics, biology, temperament, coping, prior trauma), family (e.g., demographics, structure, socioeconomic status), school, other adults, neighborhoods, religious organizations, community programs, peer groups and programs, health and mental health care, social services, public resources, social policy, economics, the media, politics, and emergency management. Functional components of the child's disaster social ecology include the disruption (e.g., loss, harm), responsiveness, communication, cohesion, support, access and barriers to resources (including services), trust, and time. To varying degrees, disasters disrupt these structures and functions.

In this article, we review the social ecology of child development and describe children's disaster reactions from this perspective. Enhanced understanding of the nature and course of children's disaster reactions requires further exploration of the environments composing their social ecology – family, school, neighborhood, community, and larger society – all of which may be affected by disaster. The interplay among these nested environments within the social ecology is active and interactive, with the component parts responding and adjusting across tragedies and triumphs. A companion article (R. L. Pfefferbaum et al., in press) describes interventions across the child's social ecology.

Child Development in a Social Ecological Context

Biological and cognitive maturation are dynamic intra-individual processes underlying child development. As biopsychosocial beings, children's development occurs within, and is influenced by, these biologically-informed internal processes as well as by the transactions occurring between children and the cultural, economic, and societal forces that surround them. Urie Bronfenbrenner (Bronfenbrenner & Morris, 2006) has illustrated the child's developmental ecology in his Bioecological Model, an explanatory and theoretical

framework explicating the impact of social attachments that extend across the child's social ecology, providing distinct types of support and guidance throughout the developmental process and creating a foundation for coping with a variety of life challenges. When threatened by a disaster or other trauma, the child depends on these attachments, beginning with the parent-child relationship and extending outward in the Bioecological Model toward social bonds with others at the community and societal level (Charuvastra & Cloitre, 2008). Despite being criticized for its over-inclusiveness, complexity, and insufficient emphasis on biological and cognitive factors, we chose this model because it focuses on the interrelated social elements existing within and impacting a child's development and post-disaster adaptation. Using Bronfenbrenner's approach as a foundation, we propose a dynamic model to depict the structure of children's social ecology, the interdependent relationships that exist among all nested environments, and the presence of the ecological components within a changing physical world.

The individual exists at the center of the social ecological system to account for the profound influence of children's unique and personal biological, cognitive, and emotional processes. Children bring their own biological and psychological processes and past experiences, emphasized in later formulations of Bronfenbrenner's Bioecological Model, and including genetics, temperament, intelligence, family history, emotional development, coping, exposure to prior traumas, pre-existing and comorbid conditions, behavioral and cognitive patterns, and other intra-individual factors, to their disaster experiences. We selected the Bioecological Model, which incorporates the biopsychological components of the individual child, but specifically emphasizes the individuals, groups, systems, and communities surrounding and sustaining children, because the entire social ecological system is challenged over time with the burden of disaster.

The first layer encompassing the child and the setting in which he or she lives is the Microsystem. Within Microsystems are the individuals and groups with whom the child interacts directly and on a regular basis including, for example, parents, close friends, role models, and teachers (Bronfenbrenner & Morris, 2006). Children are dependent upon these important others to meet their basic everyday needs and to prepare for and respond to disasters.

The next layer of the social ecology is the Mesosystem, a functional component that involves connections between two or more Microsystems (Bronfenbrenner & Morris, 2006).

While the developing child is the primary link between the settings, social networks extending from the child outward across and among parents, close friends, teachers, and mentors represent the active and dynamic Mesosystem. Mesosystem networks operate through four pathways, any of which may be affected and activated by a disaster: social support, social influence, social engagement and attachment, and access to resources and materials (Berkman & Glass, 2000).

The Exosystem is the third layer of the child's social ecology that includes various institutions, structures, networks, and processes including state and federal agencies, transportation systems, and communication channels (Riley & Masten, 2005). The Exosystem incorporates links between the child's immediate environment and the social settings in which the child does not have an active role, indirectly affecting development by acting on the child's Micro- and Mesosystems. It is characterized by the family's degree of social integration with the neighborhood and community through ties with other families or participation in the workplace, government, and informal social networks (Bronfenbrenner & Morris, 2006). Disasters place immense burden on the Exosystem, often disrupting its essential components and functions.

The Macrosystem is the outermost layer of a child's social ecology. It includes cultural and subcultural sources of ideology and information (e.g., economic, political, educational, legal) that underlie the other systems in the model (Bronfenbrenner, 1977). Macrosystems may be identified by "social address labels" that describe culture and subculture contexts including socioeconomic status, ethnicity, and region (e.g., rural, urban, suburban; Bronfenbrenner, 2005). Components within the Macrosystem indirectly impart social support through pre-existing social, economic, and political structures and processes and may have different effects on children and their families, living in the same community. Each component is both vulnerable to disaster and necessary for collective response and recovery.

Dynamic Social Attachments within the Social Ecology

The composition of a child's social environment changes with the child's development, and the relative importance of various systems in a child's social ecology, particularly when major events occur, depends in part on developmental timing. For example, family and early experiences are the

primary influences on infants and young children; family, peers, and school environments exert key influence during childhood; and work, religion, and social and community forces are more important later (Cowen, 1994). The child's social ecology increases in complexity with the increasing number and importance of these systems. Moreover, time and physical space boundaries that once existed between various components of the social ecology have decreased with the ever-increasing use of technology, altering interactions between individuals and systems within the ecology (Stokols, Misra, Runnerstrom, & Hipp, 2009).

Trauma and Disaster: Effect on the Social Ecology

Researchers have recognized that Bronfenbrenner's Bioecological Model provides a useful framework for depicting the diverse processes that influence a child's reactions and adjustment trajectory after a major trauma (Edwards, 1998; Kilmer & Gil-Rivas, 2008; Weems & Overstreet, 2008). Weems and Overstreet (2008) outlined the various influences on children's disaster adjustment in the specific context of Hurricane Katrina, including Macrosystem (e.g., prejudice, discrimination, lack of social support), Exosystem (e.g., workplace), Mesosystem (e.g., peer groups), and Microsystem (e.g., parental mental health) factors, all of which positively or negatively affect disaster recovery.

Empirical research and clinical experience have provided a wealth of information on children's reactions to disasters and the developmental and contextual factors that influence their reactions, which include (1) the physical environment where the disaster occurs and the risks within that environment (e.g., geographic location, hazard risks); (2) aspects of the disaster itself (e.g., predictability, intensity, duration); (3) the nature and degree of the child's disaster exposure (e.g., physical proximity, injury, relationship to victims) and peri-event reactions (e.g., subjective appraisal of danger and life threat); (4) the child's inherent characteristics (e.g., age, gender, race/ethnicity, temperament, coping, pre-existing conditions, prior trauma); (5) the family atmosphere (e.g., parent reactions, quality of relationships and interactions); and (6) the social environment—both pre- (e.g., socioeconomic status, social support) and post- (e.g., disruption and chaos, secondary adversities, social support) disaster (Harvey, 1996; Hoge, Austin, & Pollack, 2007; Shaw, Espinel, & Shultz, 2007; Silverman & LaGreca, 2002).

Despite its theoretical relevance for delineating the processes affecting children's post-trauma trajectories, research related to social influences (outside of the parent-child relationship) is relatively rare. There is even less understanding about how these influences operate in the disaster context. Anchored in the structure of the social ecology's nested environments, children experience a diversity of reactions to disaster. We provide an overview of existing research findings relevant to children's short- and long-term disaster mental health outcomes, utilizing the social ecology model as an organizing paradigm. Thus, the text below constitutes a summary of the processes and mechanisms occurring within each nested environment in the disaster context.

Disaster and the Micro- and Mesosystems

Microsystem

Existing as a protective shield, parents and the family serve as the primary source of support to children in the Microsystem. In a disaster recovery environment, family members offer social support; they contribute to the formation or exacerbation of negative outcomes; and they serve as models of effective or ineffective coping (Compas & Epping, 1993). Parents, as the gatekeepers for their children's entry into the health care system, also provide accounts of their children's symptoms and functioning, particularly for young children. Research findings generally support the existence of these family roles and indicate that parental responses influence their children's psychosocial functioning and coping in the aftermath of a disaster (Compas & Epping, 1993; Norris et al., 2002). In fact, in their 20-year review of disaster research, Norris and colleagues (2002) concluded that parental stress is among the robust predictors of children's distress following disasters.

Parent and child disaster reactions. Burdened by the trauma and devastation caused by disaster, children and their parents may be greatly affected, with normal family routines and supports disrupted as the family attempts to cope. The quality of children's disaster reactions may differ from those of adults, but they generally parallel those of their parents in degree (e.g., Breton, Valla, & Lambert, 1993; Earls, Smith, Reich, & Jung, 1988; Green et al., 1991). While this may reflect, in part, similar exposure, parental interpretations and emotional reactions may provide a measure of the seriousness of the event for their children (Deering, 2000) as supported by research documenting positive relationships between

children's post-disaster adjustment and parental disaster reactions (e.g., Breton, et al., 1993; Earls et al., 1988; Fairbrother, Stuber, Galea, Fleischman, & Pfefferbaum, 2003; Gil-Rivas, Silver, Holman, McIntosh, & Poulin, 2007).

Several complicating factors emerge when examining the association between parent/family and child functioning in the post-disaster recovery environment. Parental reports may not represent accurate portrayals of their children's reactions because parents may not have the psychological or emotional means to assist their children; they may underestimate or overlook the support children require (Belter & Shannon, 1993; Silverman & La Greca, 2002). Nonetheless, contrary to some studies suggesting that parental symptoms and parental dysfunction create risk for children (Green et al., 1991; Laor et al., 1997; McFarlane, 1987b), results from other studies lend support to a causal relationship in which children's distress influences their parents' posttraumatic symptoms (Koplewicz et al., 2002; Mirzamani & Bolton, 2002).

The parent-child relationship may be particularly vulnerable to the burden of disaster, especially with respect to maternal reactions (Green et al., 1991; Winje & Ulvik, 1998) and the reactions of younger children (Laor et al., 1997; Laor, Wolmer, & Cohen, 2001; Wolmer, Laor, Gershon, Mayes, & Cohen, 2000), reflecting the traditionally prominent role of mothers in child-rearing, the relatively greater time mothers usually spend with children, and the greater autonomy of children as they develop and mature (Wolmer et al., 2000). Results from an early disaster study of children and parents exposed to an Australian bushfire demonstrated that enduring maternal distress and subsequent changes in parenting predicted children's persisting distress, even more so than children's direct exposure to the disaster (McFarlane, 1987a). Swenson and colleagues (1996) found that maternal distress and mothers' experiences of additional life stressors (e.g., marriage, death, loss of property) were associated with behavioral problems in preschoolers following Hurricane Hugo. Undoubtedly, the parent-child relationship represents the most salient Microsystem influence in children's lives and plays an influential role in their reactions to and recovery from disasters.

Pre-disaster parent and child influences. There is a dearth of information about the influence of pre-disaster parent and child functioning on children's adjustment to disasters. Endo and colleagues (2007) demonstrated a link between retrospective parental ratings of their own pre-disaster mental health and their children's posttraumatic stress symptoms in response to the Niigata-Chuetsu earthquake in Japan. Conversely, in a Hurricane Katrina study with preschool children and their caregivers, parents' development of Katrina-related posttraumatic stress disorder (PTSD) symptoms, and not pre-existing parental symptoms (of anxiety disorders, depression, and/or alcohol abuse), was associated with the development of posttraumatic stress symptoms in their children (Scheeringa & Zeanah, 2008).

Family changes post disaster. In general, families are characterized by relationships; by their structure, roles, and boundaries; by emotional bonds and responsiveness; by cohesiveness, flexibility, adaptability, and coping; by communication; and by decision making and problem solving (Moos & Moos, 1976). Effects of disasters on families are evidenced in socio-behavioral outcomes and changes in relationships that result in modifications within the Microsystem that resonate throughout the other systems in a child's social ecology. The effects of disasters on families may be evidenced by disruptions in family relationships.

Empirical evidence indicates that marital stress (Norris & Uhl, 1993) and domestic violence (Adams & Adams, 1984) may increase following disasters, but so may family solidarity, measured for example as decreased divorce rates (Nakonezny, Reddick, & Rodgers, 2004) and increased births rates (Rodgers, St. John, & Coleman, 2005). Cohan and Cole (2002) found higher marriage and birth rates and also higher divorce rates in counties affected by Hurricane Hugo compared to unaffected counties, suggesting that people may take actions in their close relationships post-disaster that affect their subsequent life course.

As a central component of children's Microsystems, interactions among family members and their collective reactions appear to influence children's post-disaster adjustment (Bokszczanin, 2008; Fairbrother et al., 2003; Laor et al., 1996; Laor et al., 1997; Laor et al., 2001; McFarlane, 1987b), though research in this area is scant. Results of one study demonstrated family cohesion (the flexibility of emotional bonds among family members), rather than adaptability (the capacity to adjust the power structure, roles, and norms within the family), was the primary determinant of Israeli children's ability to withstand the stress of SCUD missile attacks in the 1990-1991 Persian Gulf War (Laor et al., 1996). Child adjustment problems were associated with both too much and too little cohesion—suggesting that both disengaged families (which fail to help the child process

the experience) and enmeshed families (which transmit unmodified negative emotions from one family member to another) may put children at risk (Laor et al., 2001; Laor et al., 1996). Other family characteristics or patterns of response have been linked to children's disaster reactions, including irritability and/or depression (Green et al., 1991), parental stress and conflict (Handford et al., 1986; Wasserstein & La Greca, 1998), conflict between adolescents and their parents (Gil-Rivas, Holman, & Silver, 2004), and even parental overprotectiveness (Bokszczanin, 2008).

Importantly, the family influences, and is influenced by, structures and systems existing throughout the neighborhood, community, national, and global environments comprising the greater social ecology. Scaramella and colleagues (2008) demonstrated relationships between family financial strain and neighborhood violence, parental distress, decreased parenting efficacy, and child behavior problems (regardless of age or family income level). Unfortunately, the family and community adversities that existed for participating families prior to Hurricane Katrina precluded these researchers from drawing any conclusions about the impact of the disaster on their Family Stress Model. Thus, more research is needed to substantiate causal links between community adversity at the Exosystem level, parental distress, and child symptoms; to more fully understand the nature of family effects; and to explore alterations in family dynamics post disaster.

The role of peers. The intimate bonds children create with their friends represent an important component of the Microsystem. Disasters disrupt routines and leisure activities in which children spend time with friends and interact with peers. Children are usually able to maintain access to friends and peers at school because schools tend to reopen quickly after a disaster, and as a result, classmates and peers may function as reflections of children's own reactions to the collective trauma (Jaycox, Morse, Tanielian, & Stein, 2006). Terranova, Boxer, and Morris (2009) examined posttraumatic stress symptoms among adolescent survivors of Hurricane Katrina and found that exposure, initial posttraumatic stress symptoms, and negative peer interaction ("peer victimization") predicted long-term symptoms. Only negative peer relations exerted an effect; prosocial peer support was not related to long-term recovery. Nested within a social community, friends and peers provide children with an important social Microsystem to which they belong. Unfortunately, knowledge about their role in children's disaster reactions is limited.

Mesosystem

Key entities within the Microsystem interact with each other to contribute to the child's development within the Mesosystem. The child exists as the primary entity linking the various Microsystem settings (e.g., home, school). Interactions between teachers and other school personnel, parents, and children represent the functional role of the Mesosystem in the social ecology. Dense Mesosystems contain numerous and diverse links among home, school, peer group, faith-based organizations, and neighborhood; limited connections result in weak Mesosystems and increased risk for the child (Garbarino & Ganzel, 2000).

Disaster and the Exo- and Macrosystems

Exosystem

Disasters affect the Exosystem by influencing the important connections between individuals in a child's immediate environment (e.g., parents, teachers) and social settings in which the child does not actively participate (e.g., parental work and social environments, neighborhood and community organizations, mass media, government, other informal social networks). Government, parental employment, social agencies, neighborhood, community organizations, and mass media directly affect parents and other important adults in children's lives (e.g., teachers), who in turn directly affect the child. For example, the government delivers disaster relief and disaster mental health services often through existing social agencies. The degree of adults' exposure to, and participation in, these systems and processes within the Exosystem affects their own disaster reactions and thus, their children's responses. The media provide risk communication through public health recommendations (e.g., for vaccinations) and directives (e.g., evacuation orders), but disaster coverage also may be associated with potentially negative effects (Fairbrother et al., 2003; Kennedy, Charlesworth, & Chen, 2004; B. Pfefferbaum et al., 2003).

In addition to direct effects on children, severe disasters like Hurricane Katrina also affect children indirectly through the Exosystem. One year after Hurricane Katrina, the Kaiser Family Foundation (2007) conducted a comprehensive survey of residents of the greater New Orleans area. The results revealed devastating consequences for many families: 52% reported a worsened financial situation after Hurricane Katrina; 37% experienced significant housing or social net-

work disruption; 49% had health care coverage and access problems; and 17% suffered unemployment or decrease in pay or benefits. Supportive and nurturing connections with the community help parents and other adults achieve goals and address the needs of children following disaster. This support may be provided by outreach or clinical services for parents that assist with locating, acquiring, and equitably distributing needed resources.

The persistence of clinical symptoms in reaction to disaster-related secondary adversities may prolong psychopathology beyond the initial trauma. Studying the effects of Hurricane Andrew, Shaw and colleagues (1996) linked enduring posttraumatic stress symptoms to the secondary stressors affecting children and families. They attributed children's high levels of enduring posttraumatic stress and behavioral disruption at 21 months post-disaster to the displacement, increased unemployment, and loss of utilities and other infrastructure damage occurring throughout the community (Shaw, Applegate, & Schorr, 1996). Importantly, however, children who recover completely from prior trauma may demonstrate better outcomes when faced with a future traumatic event (Silverman & La Greca, 2002).

Macrosystem

An increasingly dangerous world contributes to, and is influenced by, disasters. Furthermore, recent global changes in technology, geophysical environments (e.g., climate, pollution, resource depletion), and increasing diversity and conflict among sociopolitical interests affect the structure and functioning of individuals' social ecological systems (Stokols et al., 2009). The Macrosystem of a child's social ecology is most directly affected by these alterations in cultural and subcultural values and processes in relation to disaster. Disruption at the Macrosystem level indirectly affects disaster response and recovery through intangible cultural, social, economic, and political structures and processes, perhaps stifling progress and healing in the recovery environment. For children, families, and communities, extreme events like the 2004 Indian Ocean tsunami and Hurricanes Katrina and Ike altered perspectives of mass disasters due to the devastating changes in the social ecology that remained.

In well-developed Western countries, other factors have affected the Macrosystem at a societal level including a decaying infrastructure (e.g., unsafe bridges, dams, levees) and demoralization brought by diminished trust in government. National and local responses to Three Mile Island (Goldsteen,

Goldsteen, & Schorr, 1992) and Katrina (Quinn, 2006), for example, undermined trust in the public infrastructure that is designed to sustain communities, groups, and individuals. The foundation of support for a child's social ecology is further eroded by the failure of the system to render aid, especially when things are most dire.

Race, Culture, and Social Groups

A body of literature is emerging regarding the Macrosystem influences of racial, cultural, and social group membership and affiliation on disaster outcomes, although most of the existing research is limited to adult studies. Early disaster studies reported inconsistent results regarding racial and ethnic differences among children exposed to disasters. While some child disaster studies identified comparable reactions across racial groups (e.g., Garrison et al., 1995; Shaw et al., 1995; Vernberg, La Greca, Silverman, & Prinstein, 1996), others have supported minority racial status as a risk factor for child disaster survivors (e.g., La Greca, Silverman, Vernberg, & Prinstein, 1996; Russoniello et al., 2002; Shannon, Lonigan, Finch, & Taylor, 1994; Terranova et al., 2009). Unfortunately, most results concerning racial, cultural, or ethnic differences obscure any influence of ethnicity on outcomes by failing to adequately address broader social and cultural issues.

Conclusion

The destructive nature of disasters can cause irrevocable harm and devastation to children and the individuals, groups, systems, communities, and processes that comprise children's social ecology. The literature has provided a wealth of information documenting the deleterious effects of disasters on children; however, the extent to which the burden of disaster impacts the broader social ecological context to which children belong is often overlooked. Further research is needed to elucidate the various structures and functions existing within a child's Micro-, Meso-, Exo-, and Macrosystems that affect their disaster reactions.

Parents, extended family members, peers, teachers, and others with whom children share intimate bonds contribute to their disaster adjustment and often provide essential support in the post-disaster environment. Strong connections among home, school, peer group, faith-based organizations, neighborhoods, and supportive networks and responses within social, community, and governmental agencies, can foster children's resilience and recovery in the face of ad-

versity. The Bioecological Model represents the multitude of factors impacting the ability of a child to recover or grow in response to disaster. Ideally, the nested environments surrounding children are able to mitigate the effects of disasters and to foster recovery and rebuilding efforts that limit disruption to the child and his or her social ecology. While our understanding of the mechanisms by which each social ecological component influences the other is developing, it is clear that children will benefit from efforts to bolster the ecology's ability to provide support and protection in preparation for and response to disasters. A companion article (R. L. Pfefferbaum et al., in press) describes the use of the social ecological framework to provide mental health interventions.

REFERENCES

Adams, P. R., & Adams, G. R. (1984). Mount Saint Helen's ashfall: Evidence for a disaster stress reaction. *American Psychologist, 39*(3), 252-260. doi:10.1037//0003-066X.39.3.252.

Belter, R. W., & Shannon, M. P. (1993). Impact of natural disasters on children and families. In: C. F. Saylor (Ed.), *Children and disasters* (pp. 85-103). New York: Plenum Press.

Berkman, L. F., & Glass, T. (2000). Social integration, social networks, social support, and health. In: L. F. Berkman & I. Kawachi (Eds.), *Social epidemiology* (pp. 137-173). New York: Oxford University Press.

Bokszczanin, A. (2008). Parental support, family conflict, and overprotectiveness: Predicting PTSD symptom levels of adolescents 28 months after a natural disaster. *Anxiety, Stress & Coping, 21*(4), 325-335. doi:10.1080/10615800801950584

Breton. J. J., Valla, J. P., & Lambert, J. (1993). Industrial disaster and mental health of children and their parents. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*(2), 438-445. doi:10.1097/00004583-199303000-00028

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7) 513-531.

Bronfenbrenner, U. (2005). Ecological systems theory. In: U. Bronfenbrenner (Ed.), *Making human beings human: Biological perspectives on human development* (pp. 106-173). Thousand Oaks, CA: Sage Publications.

Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In: W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology* (6th Ed.), *Theoretical models of human development* (Vol. 1., pp. 793-828). New York: John Wiley & Sons, Inc.

Charuvastra, A., & Cloitre, M. (2008). Social bonds and PTSD. *Annual Review of Psychology, 59*, 301-328. doi: 10.1146/annurev.psych.58.110405.085650

Cohan, C. L., & Cole, S. W. (2002). Life course transitions and natural disaster: Marriage, birth, and divorce following Hurricane Hugo. *Journal of Family Psychology, 16*(1), 14-25. doi: 10.1037/0893-3200.16.1.14

Compas, B. E., & Epping, J. E. (1993). Stress and coping in children and families: Implications for children coping with disaster. In C. F. Saylor (Ed.), *Children and disasters,* (pp. 11-28). New York: Plenum Press.

Cowen, E. L. (1994). The enhancement of psychological wellness: Challenges and opportunities. *American Journal of Community Psychology, 22*(2), 149-179.

Deering, C. G. (2000). A cognitive developmental approach to understanding how children cope with disasters. *Journal of Child and Adolescent Psychiatric Nursing, 13*(1), 7-16. doi:10.1111/j.1744-6171.2000.tb00070.x

Earls, F., Smith, E., Reich, W., & Jung, K. G. (1988). Investigating psychopathological consequences of a disaster in children: A pilot study incorporating a structured diagnostic interview. *Journal of the American Academy of Child & Adolescent Psychiatry, 27*(1), 90-95. doi:10.1097/00004583-198801000-00014

Edwards, M. L. K. (1998). An interdisciplinary perspective on disasters and stress: The promise of an ecological framework. *Sociological Forum, 13*(1), 115-132.

Endo, T., Shioiri, T., Toyabe, S., Akazawa, K., & Someya, T. (2007). Parental mental health affects behavioral changes in children following a devastating disaster: A community survey after the 2004 Niigata-Chuetsu earthquake. *General Hospital Psychiatry, 29(*2), 175-176. doi:10.1016/j.genhosppsych.2006.09.006

Fairbrother, G., Stuber, J., Galea, S., Fleischman, A. R., & Pfefferbaum, B. (2003). Posttraumatic stress reactions in New York City children after the September 11, 2001, terrorist attacks. *Ambulatory Pediatrics, 3*(6), 304-311. doi:10.1367/1539-4409(2003)003<0304:PSRINY>2.0.CO;2

Garbarino, J., & Ganzel, B. (2000). The human ecology of early risk. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd Ed.) (pp. 76-93). London: Cambridge University Press.

Garrison, C. Z., Bryant, E. S., Addy, C. L., Spurrier, P. G., Freedy, J. R., & Kilpatrick, D. G. (1995). Posttraumatic stress disorder in adolescents after Hurricane Andrew. *Journal of the American Academy of Child and Adolescent Psychiatry, 34*(9), 1193-1201. doi:10.1097/00004583-199509000-00017

Gil-Rivas, V., Holman, E. A., & Silver, R. C. (2004). Adolescent vulnerability following the September 11th terrorist attacks: A study of parents and their children. *Applied Developmental Science, 8(*3), 130-142.

Gil-Rivas, V., Silver, R. C., Holman, E. A., McIntosh, D. N., & Poulin, M. (2007). Parental response and adolescent adjustment to the September 11, 2001 terrorist attacks. *Journal of Traumatic Stress, 20*(6), 1063-1068. doi:10.1002/jts.20277

Goldsteen, R. L., Goldsteen, K., & Schorr, J. K. (1992). Trust and its relationship to psychological distress: The case of Three Mile Island. *Political Psychology, 13*(4), 693-707.

Green, B. L., Korol, M., Grace, M. C., Vary, M. G., Leonard, A. C., Gleser, G. C., & Smitson-Cohen, S. (1991). Children and disaster: Age, gender, and parental effects on PTSD symptoms. *Journal of the American Academy of Child & Adolescent Psychiatry, 30*(6), 945-951. doi:10.1097/00004583-199111000-00012

Handford, H. A., Mayes, S. D., Mattison, R. E., Humphrey, F. J., Bagnato, S., Bixler, E. O., & Kayles, J. D. (1986). Child and parent reaction to the Three Mile Island nuclear accident. *Journal of the American Academy of Child Psychiatry, 25*(3), 346-356. doi:10.1016/S0002-7138(09)60256-9

Harvey, M. R. (1996). An ecological view of psychological trauma and trauma review. *Journal of Traumatic Stress, 9*(1), 3-23.

Hoge, E. A., Austin, E. D., & Pollack, M. H. (2007). Resilience: Research evidence and conceptual considerations for posttraumatic stress disorder. *Depression and Anxiety, 24*, 139-152.

Jaycox, L. H., Morse, L. K., Tanielian, T., & Stein, B. D. (2006). *How schools can help students recover from traumatic experiences: A tool kit for supporting long-term recovery.* Rand Corporation Gulf States Policy Institute

TR-413-RC. Retrieved from http://www.rand.org/content/dam/rand/pubs/technical_reports/2006/RAND_TR413.pdf

Kaiser Family Foundation. (2007). *Giving voice to the people of New Orleans: The Kaiser post-Katrina baseline survey* (Publication #7631). Menlo Park, CA: The Henry J. Kaiser Family Foundation. Retrieved from http://www.kff.org/kaiserpolls/upload/7631.pdf

Kennedy, C., Charlesworth, A., & Chen, J. L. (2004). Disaster at a distance: Impact of 9.11.01 televised news coverage on mothers' and children's health. *Journal of Pediatric Nursing, 19*(5), 329-339.

Kilmer, R. P., & Gil-Rivas, V. (2008). Posttraumatic growth in youth following disasters. *The Prevention Researcher, 15*(3), 18-20.

Koplewicz, H. S., Vogel, J. M., Solanto, M. V., Morrissey, R. F., Alonso, C. M., Abikoff, H., .Novick, R. M. (2002). Child and parent response to the 1993 World Trade Center bombing. *Journal of Traumatic Stress, 15*(1), 77-85.

La Greca, A. M., Silverman, W. K., Vernberg, E. M., & Prinstein, M. J. (1996). Symptoms of posttraumatic stress in children after Hurricane Andrew: A prospective study. *Journal of Consulting and Clinical Psychology, 64*(4), 712-723. doi:10.1037/0022-006X.64.4.712

Laor, N., Wolmer, L., & Cohen, D. J. (2001). Mothers' functioning and children's symptoms 5 years after a SCUD missile attack. *American Journal of Psychiatry, 158*, 1020-1026.

Laor, N., Wolmer, L., Mayes, L. C., Gershon, A., Weizman, R., & Cohen, D. J. (1997). Israeli preschool children under SCUDs: A 30-month follow-up. *Journal of American Academy of Child and Adolescent Psychiatry, 36*(3), 349-356.

Laor, N., Wolmer, L., Mayes, L. C., Golomb, A., Silverberg, D.S., Weizman, R., & Cohen, D. J. (1996). Israeli preschoolers under SCUD missile attacks: A developmental perspective on risk-modifying factors. *Archives of General Psychiatry, 53*, 416-423.

McFarlane, A. C. (1987a). Posttraumatic phenomena in a longitudinal study of children following a natural disaster. *Journal of American Academy of Child and Adolescent Psychiatry, 26*(5), 764-769.

McFarlane, A. C. (1987b). The relationship between patterns of family interaction and psychiatric disorder in children.

Australian and New Zealand Journal of Psychiatry, 21, 383-390.

Mirzamani, M., & Bolton, D. (2002). PTSD symptoms of mothers following occurrence of a disaster affecting their children. *Psychological Reports, 90*, 431-438.

Moos, R. H., & Moos, B. S. (1976). A typology of family social environments. *Family Processes, 15*, 357-371.

Nakonezny, P. A., Reddick, R., & Rodgers, J. L. (2004). Did divorces decline after the Oklahoma City bombing? *Journal of Marriage and Family, 66,* 90-100.

Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002). 60,000 disaster victims speak: Part 1. An empirical review of the empirical literature, 1981-2001. *Psychiatry, 65*(3), 207-239.

Norris, F. H., & Uhl, G. A. (1993). Chronic stress as a mediator of acute stress: The case of Hurricane Hugo. *Journal of Applied Social Psychology, 23*(16), 1263-1284.

Pfefferbaum, B., Seale, T. W., Brandt, E. N. Jr., Pfefferbaum, R. L., Doughty, D. E., & Rainwater, S. M. (2003). Media exposure in children one hundred miles from a terrorist bombing. *Annals of Clinical Psychiatry, 15*(1), 1-8.

Pfefferbaum, R. L., Jacobs, A. K., Pfefferbaum, B., Noffsinger, M. A., Sherrieb, K., & Norris, F. H. (in press). The burden of disaster: Part II. Applying interventions across the child's social ecology. *International Journal of Emergency Mental Health.*

Quinn, S. C. (2006). Hurricane Katrina: A social and public health disaster. *American Journal of Public Health, 96*(2), 204.

Riley, J. R., & Masten, A. S. (2005). Resilience in context. In: R. D. Peters, B. Leadbeater, & R. J. McMahon (Eds.), *Resilience in children, families and communities: Linking context to practice and policy* (pp. 13-25). New York: Kluwer Academic/Plenum.

Rodgers, J. L., St. John, C. A., & Coleman, R. (2005). Did fertility go up after the Oklahoma City bombing? An analysis of births in metropolitan counties in Oklahoma, 1990-1999. *Demography, 42*(4), 675-692.

Russoniello, C. V., Skalko, T. K., O'Brien, K., McGhee, S. A., Bingham-Alexander, D., & Beatley, J. (2002). Childhood posttraumatic stress disorder and efforts to cope after Hurricane Floyd. *Behavioral Medicine, 28*, 61-71. doi:10.1080/08964280209596399

Scaramella, L. V., Sorh-Preston, S. L., Callahan, K. L., & Mirabile, S. P. (2008). A test of the family stress model on toddler-aged children's adjustment among Hurricane Katrina impacted and non-impacted low-income families. *Journal of Clinical Child and Adolescent Psychology, 37*(3), 530-541.

Scheeringa, M. S., & Zeanah, C. H. (2008). Reconsideration of harm's way: Onsets and comorbidity patterns of disorders in preschool children and their caregivers following Hurricane Katrina. *Journal of Clinical Child and Adolescent Psychology, 37*(3), 508-518.

Shannon, M., Lonigan, C. J., Finch, A. J., & Taylor, C. M. (1994). Children exposed to disaster: I. Epidemiology of post-traumatic symptoms and symptoms profiles. *Journal of American Academy of Child & Adolescent Psychiatry, 33*(1), 80-93. doi:10.1097/00004583-199401000-00012

Shaw, J. A., Applegate, B., & Schorr, C. (1996). Twenty-one-month follow-up study of school-age children exposed to Hurricane Andrew. *Journal of American Academy of Child & Adolescent Psychiatry, 35*(3), 359-364. doi:10.1097/00004583-199603000-00018

Shaw, J. A., Applegate, B., Tanner, S., Perez, D., Rothe, E., Campo-Bowen, A. E., & Lahey, B. L. (1995). Psychological effects of Hurricane Andrew on an elementary school population. *Journal of American Academy of Child & Adolescent Psychiatry, 34*(9), 1185-1192. doi:10.1097/00004583-199509000-00016

Shaw, J. A., Espinel, Z., & Shultz, J. M. (2007). Child and family assessment. In: *Children: Stress, trauma and disasters* (pp. 104-111). Miami, FL: Center for Disaster and Extreme Preparedness. Retrieved from http://deep.med.miami.edu/x466.xml

Silverman, W. K., & La Greca, A. M. (2002). Children experiencing disasters: Definitions, reactions, and predictors of outcomes. In A. M. La Greca, W. K. Silverman, E. M. Vernberg, & M. C. Roberts (Eds.), *Helping children cope with disasters and terrorism* (pp. 11-33). Washington, DC: *American Psychological Association.* doi:10.1037/10454-000

Stokols, D., Misra, S., Runnerstrom, M. G., & Hipp, J. A. (2009). Psychology in an age of ecological crisis: From personal angst to collective action. *American Psychologist, 64*(3), 181-193. doi: 10.1037/a0014717

Swenson, C. C., Saylor, S. F., Powell, M. P., Stokes, S. J., Foster, K. Y., & Belter, R. W. (1996). Impact of a natural

disaster on preschool children: Adjustment 14 months after a hurricane. *American Journal of Orthopsychiatry, 66*(1), 122-130.

Terranova, A. M., Boxer, P., & Morris, A. S. (2009). Factors influencing the course of posttraumatic stress following a natural disaster: Children's reactions to Hurricane Katrina. *Journal of Applied Developmental Psychology, 30*, 344-355. doi:10.1016/j.appdev.2008.12.017

Vernberg, E. M., La Greca, A. M., Silverman, W. K., & Prinstein, M. J. (1996). Prediction of posttraumatic stress symptoms in children after Hurricane Andrew. *Journal of Abnormal Psychology, 105*(2), 237-248. doi:10.1037/0021-843X.105.2.237

Waller, M. A. (2001). Resilience in ecosystemic context: Evolution of the concept. *American Journal of Orthopsychiatry, 71*(3), 290-297.

Wasserstein, S. B., & La Greca, A. M. (1998). Hurricane Andrew: Parent conflict as a moderator of children's adjustment. *Hispanic Journal of Behavioral Sciences, 20*(2), 212-224.

Weems, C. F., & Overstreet, S. (2008). Child and adolescent mental health research in the context of Hurricane Katrina: An ecological needs-based perspective and introduction to the special section. *Journal of Clinical Child and Adolescent Psychology, 37*(3), 487-494.

Winje, D., & Ulvik, A. (1998). Long-term outcome of trauma in children: The psychological consequences of a bus accident. *Journal of Child Psychology and Psychiatry, 39*(5), 635-642.

Wolmer, L., Laor, N., Gershon, A., Mayes, L. C., & Cohen, D. J. (2000). The mother-child dyad facing trauma: A developmental outlook. *The Journal of Nervous and Mental Disease, 188*(7), 409-415.

Church Attendee Help Seeking Priorities after Hurricane Katrina in Mississippi and Louisiana: A Brief Report

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Abstract: *After a disaster, survivors find themselves seeking many types of help from others in their communities. The purpose of this exploratory study was to assist in mental health service planning by determining the type and priority of support services sought by church attendees after Hurricane Katrina. Surveys were given to church attendees from two Mississippi coast and four New Orleans area churches that were directly affected by Hurricane Katrina participants were asked to review a list of 12 potential sources of help and were asked to rank the items chronologically from whom they had sought help first after Hurricane Katrina. Overall, participants sought out assistance from informal social networks such as family and friends first, followed by governmental and clergy support. This study also showed there may be differences in help-seeking behaviors between church attendees in more urban areas versus church attendees in more rural areas. Moreover, findings highlighted that very few church attendees seek out mental health services during the initial impact phase of a disaster. Since timely engagement with mental health services is important for resolving trauma, strategies that link professional mental health services with clergy and government resources following a disaster could improve the engagement with mental health professionals and improve mental health outcomes. Disaster mental health clinical implications and recommendations are offered for psychologists based on these findings. [International Journal of Emergency Mental Health, 2012, 14(1), pp. 15-20].*

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Hurricane Katrina was one of the most devastating natural disasters in American history. Those who survive a disaster often find themselves facing financial, shelter, and personal loss, as well as mental health complications (Aten, Madson, Rice, Chamberlain, 2008). For example, after Hurricane Katrina, Kessler and colleagues (2008) found that the prevalence of PTSD, anxiety-mood disorders, serous mental illness, suicidal ideations, and suicidal plans increased significantly. Most commonly, disaster survivors are at greatest risk of experiencing psychological symptoms associated with depression, anxiety, and posttraumatic stress (e.g., Smith, Pargament, Brant, & Oliver, 2000).

After a disaster, survivors find themselves seeking many types of help from others in their communities. Seeking help from fellow survivors in the wake of a disaster from social support sources has been found to fortify feelings of solidarity, altruism, empathy and social comparisons. Help-seeking behaviors after a disaster would also appear to have a buffering effect on symptom intensity. For example, Kaniasty and colleagues (2004) found that participants struggling with posttraumatic stress disorder who reported higher levels of help-seeking behavior and perceived levels of social support also reported fewer negative mental health consequences. Overall, researchers have found that disaster survivors most often seek assistance from community-based sources of support.

For example, and of particular interest to this exploratory study, in the aftermath of Hurricane Katrina, it was found that many individuals in need of spiritual, social, and emotional support sought help from clergy and churches (Evans et al., 2008). Aderbigbe and colleagues (2003) have referred to churches as "first responders" to communities affected by disasters (Aderbigbe et al., 2003). That is, clergy and churches are frequently one of the first community groups to actually respond to communities impacted by disaster. Evans and colleagues (2008), for instance, found that clergy and church communities, both local and non-local, took on a leadership role in the Hurricane Katrina recovery efforts across the Gulf Coast. In response to this disaster, clergy and churches responded by providing volunteers, emotional support, financial assistance, and spiritual guidance. Thus, the purpose of this brief exploratory study is to identify church attendee help-seeking behavior and discuss subsequent implications for mental health professionals.

METHOD

Participants

Surveys were given to a convenience sample of church attendees from two Mississippi coast and four New Orleans area churches that were directly affected by Hurricane Katrina approximately four years after the storm. The churches were all from the same Protestant denomination. This method resulted in 155 participants (mean age = 58, SD = 14.63) who were 96% Caucasian, 2% African American, and 3% Hispanic. The sample included 100 females (65%) and 55 males (35%). One hundred and eight participants (70%) identified as Louisiana church attendees. Forty-seven participants (30%) identified as Mississippi church attendees.

Procedures

A convenience sampling approach was used to identify and recruit participants. Two clergy, one from Mississippi and one from Louisiana, assigned by their denomination's regional dioceses to assist with the disaster recovery process, were asked to recommend churches for the study, with an emphasis on churches most directly affected by Hurricane Katrina. Clergy at each recommended church were contacted by phone to briefly introduce the study. Clergy who expressed interest in their congregations participating in the study were then emailed a written description of the study and a sample informed consent form and survey. Out of the eight clergy contacted about their congregations participating in the study, six gave permission and were later surveyed. At each church the researchers were given permission to give a brief verbal announcement about the study during service announcements. Clergy then reminded church attendees about the survey at the conclusion of the church service. After the service, researchers passed out to the participants research

packets that contained an informed consent form and brief survey. Research packets were collected by researchers as participants prepared to exit the church. No incentive was given for completing the study.

Participants completed a brief survey, which included questions related to their Hurricane Katrina experience, basic demographic questions, and a question about help-seeking behavior following Hurricane Katrina. The help-seeking question asked participants to review a list of 12 potential sources of help and to rank the items chronologically from whom they had sought help from first after Hurricane Katrina. If a particular source was not utilized participants were instructed to place an "X" by the item. The list of potential sources participants were asked to rank order included:

- clergypersons (e.g., priest),
- faith-based disaster agency/professionals (e.g., Church World Services or out-of-state group),
- family members,
- first responder agency/professional (e.g., EMT, police officer, firefighter),
- friends,
- government agency/professionals (e.g., FEMA),
- healthcare agency/professionals (e.g., hospital, medical clinic, physician, nurse),
- mental health agency/professionals (e.g., counselor, social worker, psychologist),
- military agency/professionals (e.g., National Guard),
- non-profit agency/professionals (e.g., Red Cross),
- parish leadership (e.g., deacon), and
- state agency/professionals (e.g., Mississippi/Louisiana Emergency Management Agency.

Descriptive statistics were analyzed to determine overall help-seeking priorities, which included both Mississippi and Louisiana participants. After the overall help-seeking patterns were identified, crosstabs were computed on help-seeking behavior and church location. An independent t-test analysis was then run to determine differences between Mississippi and Louisiana help-seeking behavior.

RESULTS

For participants as a whole, the most sought sources of help utilized after Hurricane Katrina, in order from first most sought to least first sought were:

- Family members (66%);
- Friends (58%);
- Government agency/professional (26%);
- Clergypersons (23%);
- Non-profit agency/professional (12%);
- Parish leadership (8%);
- First responder agency/professional (6%);
- Faith-based disaster agency/professionals (5%);
- Healthcare agency/professional (4%);
- Military agency/professional (3%);
- Mental health agency/professional (2%); and
- State agency/professional (1%).

However, two primary differences between Mississippi and Louisiana participants were reported on help-seeking rankings. Mississippi participants ranked the clergypersons item significantly (p = .016) higher (second most sought source of support) than Louisiana participants (third most sought source of support). Similarly, although the difference was not statistically significant (p = .62), governmental agency/professional help seeking was endorsed with higher rankings from Louisiana participants (second most sought source of support) compared to Mississippi participants (third most sought source of support).

DISCUSSION

Considering the readership of this journal, sources of support sought last may be of equal interest, if not more, than the sources of support sought first after Hurricane Katrina. Particularly, the eleventh ranking of mental health agency/ professional out of twelve possible sources of support raises a number of implications for disaster mental health. In some ways this may not seem surprising, since research studies have shown that people tend to reach out to family and friends first, as was supported by this study as well. Research has also shown that during the initial impact phase of a disaster and early phases of recovery, more emphasis is typically placed on physical rebuilding (e.g., rebuilding or repairing homes) and recovery of resources (e.g., utilities), and that attention to disaster mental health issues tends to follow in later stages of recovery. Likewise, previous research has indicated that religious people are less likely to seek mental health treatment (e.g., for fear of being asked to change their beliefs or fear of being pathologized for their beliefs). However, regardless

of when people tend to begin recognizing the importance of mental health after a disaster, researchers have demonstrated that it is during those early impact phases that disaster survivors experience the highest levels of negative mental health consequences and are at the most risk for developing serious psychological problems.

One possible implication of this study would be that to increase early access to disaster mental health services, especially among church attendees, mental health professionals need to work closely with community-based sources of help. Researchers have found that disaster survivors most commonly seek help from other community members within their communities as a way to deal with the results of the disaster, often involving traumatic memories which linger long after the disaster occurs (Murphy, 1988). Likewise, researchers have found that seeking help from mental health professionals can either be fostered or obstructed by social influences and opinions of friends and loved ones. For example, according to Vogel and colleagues (2007), in non-disaster circumstances, between 74% to 78% of clients seeking mental health services were encouraged to do so by an individual in their social network. It would appear then that family and friends may not only play an important role in responding to post-disaster needs, but may also be in a position to influence help-seeking behaviors of those from whom support was sought. Thus, mental health professionals are encouraged to look for opportunities to collaborate with churches in order to raise awareness among church attendees about disaster mental health issues so that church attendees will be better equipped at recognizing emotional problems and referring family or friends for help. Aten and Topping (2010) found many clergy whose churches were severely affected by Hurricane Katrina reported being open to mental health professionals providing psychoeducational training on signs and symptoms of psychological distress and referral strategies for their congregations.

Overall, researchers showed that faith communities played a significant and positive role in helping regions affected by Hurricane Katrina. Though the primary focus of this article is on church referrals to mental health professionals, researchers have suggested that bi-directional collaboration is warranted. Yet, especially during times of disaster, referring mental health professionals need to take into account potential challenges that may emerge. For example, a prominent pastor in South Mississippi had preached the Sunday before the storm that anyone who was thinking about evacuating was doing so because of a lack of faith. Though this does not represent the overall response of the church following Hurricane Katrina, such teachings or beliefs may be taught or proselytized, and can cause psychological harm. To help referring mental health professionals in identifying appropriate and ethical disaster spiritual and emotional care, readers are referred to the National Voluntary Organizations Active in Disasters points of consensus on spiritual and emotional care, which have been established to help protect disaster survivors and provide standards of care. Thus, it would appear to behoove mental health professionals considering post-disaster mental health professional-clergy collaboration to particularly familiarize themselves with the consensus points #8 and #9:

8. *Disaster Spiritual care in diversity—Respect is foundational to disaster spiritual care. Spiritual care providers demonstrate cultural and religious values by recognizing the right of each faith group and individual values and tradition. Spiritual care providers:*

- *Refrain from manipulation, disrespect or exploita tion of those impacted by disaster and trauma.*

- *Respect the freedom from unwanted gifts of reli gious literature or symbols, evangelistic and ser monizing speech, and/or forced acceptance of spe cific moral values and traditions.*

- *Respect diversity and differences, including but not limited to culture, gender, age, sexual orientation, spiritual/religious practices and disability.*

9. *Disaster, trauma and vulnerability—People impacted by disaster and trauma are vulnerable. There is an imbalance of power between disaster responders and those receiving care. To avoid exploiting that imbalance, spiritual care providers refrain from using their position, influence, knowledge or professional affiliation for unfair advantage or for personal, organizational or agency gain. Disaster response will not be used to further a particular political or religious perspective or cause-response will be carried out according to the need of individuals, families and communities. The promise, delivery, or distribution of assistance will not be tied to the embracing or acceptance of a particular political or religious creed* (National Voluntary Organizations Active in Disaster, 2009).

Since it is likely that in times of crisis people will rely on the familiar (friends and family, church) rather than seek new sources (mental health professionals), mental health

professionals need to establish a presence and increase preparatory awareness before there is a crisis. In general, strategies for such preparatory engagement by mental health professionals could include working with local community emergency response organizations to include training and marketing materials about the role of mental health professionals; establishing consulting and support relationships with government and clergy so they are equipped to recognize important symptoms and make appropriate referrals; and increasing public awareness of the role and value of mental health services through sharing case studies and illustrations of mental health professionals as disaster workers.

The current study also highlighted the prominent role of clergy and church based sources of support post-disaster, especially in the rural state of Mississippi. Researchers have shown that clergy and churches often play a large role in the rebuilding of disaster-stricken communities, while also providing much needed spiritual and emotional support for disaster survivors (Koenig, 2006). For instance, Stein and colleagues (2004) found a considerable number of those who reported persistent distress after a disaster sought help from faith communities for not only fellowship, comfort, and meaning-making, but also spiritual support, which has been linked to positive mental health outcomes.

Therefore, it would seem to behoove mental health professionals interested in working with religious populations after a disaster to work on building collaborative relationships with clergy. This would seem to be particularly evident for mental health professionals practicing or responding to disasters in more rural communities or regions. According to Aten, Mangis, and Campbell (in press), clergy in rural areas often serve as "gatekeepers," and are more open to referring church attendees to mental health professionals if an established, bi-directional, and trusted relationship has been formed. Examples of potential collaborative activities between clergy and mental health professionals after a disaster that have been identified include: (a) mental health professionals providing outreach services for churches, (b) mental health professionals conducting disaster and trauma assessments and brief screenings to churches, (c) mental health professionals offering consultation services to churches, (d) mental health professionals providing clinical services to churches, and (e) mental health professionals referring clients for spiritual support and resources to churches (Aten, Topping, Denney, & Bayne, in press).

Conclusion

The purpose of this brief exploratory study was to investigate help-seeking behavior among church attendees affected by Hurricane Katrina in Mississippi and Louisiana. It would appear that participants sought out assistance from informal social networks first, followed by governmental and clergy support. This study also showed there may be differences in help-seeking behaviors and priorities between church attendees in more urban areas versus church attendees in more rural areas. Moreover, findings highlighted that very few church attendees seek out mental health services during the initial impact phase of a disaster. Before concluding, readers should be aware of potential limitations of this study.

The sample for this study was predominantly Caucasian and representative of just one Protestant denomination, whose congregations tend to have a smaller membership in comparison to other denominations in the South. The current study should also be considered exploratory due to the small sample size, the use of a convenience sample, and the all-inclusive term used for help seeking. It is possible that a more specific term for help seeking that was more psychosocial in nature would yield different priorities. The researchers encourage others to study the role and responses of faith communities in the wake of disasters in hopes of gaining a deeper understanding of help-seeking priorities among religious attendees. Future research exploring help-seeking behavior in greater detail and breath of scope is warranted. Future research is also needed that reflects greater ethnic and religious diversity. Overall, it is hoped that this article will encourage mental health professionals to consider methods for improving access to disaster mental health services by collaborating with clergy and churches.

REFERENCES.

Aderibgbe, Y., Bloch, R., Pandurangi, A. (2003). Emotional and somatic distress in eastern North Carolina: Help-seeking behaviors. *International Journal of Social Psychiatry, 49*, 126-141.

Aten, J., Madson, M., Rice, A., Chamberlain, A. (2008). Post-disaster supervisor strategies for promoting supervisee self-care: Lessons learned from Hurricane Katrina. *Training and Education in Professional Psychology, 2*, 75-82.

Aten, J., Mangis, M., & Campbell, C. (in press). Psychotherapy with religious fundamentals. *Journal of Clinical Psychology: In Session.*

Aten, J., & Topping, S., & Denney, R. (2010). Helping African-American clergy and churches address minority disaster mental health disparities: Training needs, model, and example. Article submitted for review to *Psychology of Religion and Spirituality.*

Aten, J., & Topping, J., Denney, R., & Bayne, T. (in press). Collaborating with African American churches to overcome disaster mental health disparities: What mental health professionals can learn from Hurricane Katrina. *Professional Psychology: Research and Practice.*

Evans, D., Kromm, C., Sturges, S. (2008). *Faith in the gulf: Lessons from the religious response to Hurricane Katrina.* Institute for Southern Studies.

Kaniasty, K., Norris, F. (2004). Social support in the aftermath of disasters, catastrophes, and acts of terrorism: altruistic, overwhelmed, uncertain, antagonistic, and patriotic communities. In Ursano, R., Norwood, A., Fullerton, C. (Eds.), *Bioterrorism: Psychological and public health interventions* (pp. 220-229). New York, NY, US: Cambridge University Press.

Kaniasty, K., Norris, F. (2008). Longitudinal Linkages Between Perceived Social Support and Posttraumatic Stress Symptoms: Sequential Roles of Social Causation and Social Selection. *Journal of Traumatic Stress, 21,* 274-281.

Kessler, R., Galea, S., Gruber, M., Sampson, N., Ursano, R., Wessely, S. (2008). Trends in mental illness and suicidiality after Hurricane Katrina. *Modular Psychiatry, 13,* 374-384.

Koenig, H. (2006). *In the wake of disaster: Religious responses to terrorism and catastrophe.* West Conshohocken, PA: Templeton Press.

National Voluntary Organizations Active Disaster. (2009). *Disaster spiritual care points of consensus.* Arlington, VA: Author.

Rubonis, A., Bickman, L. (1991). Psychological impairment in the wake of disaster: The disaster-psychopathology relationship. *Psychological Bulletin, 109*, 384-399.

Smith, B. W., Pargament, K. I., Brant, C., & Oliver, J. M. (2000). Noah revisited: Religious coping by church members and the impact of the 1993 Midwest flood. *Journal of Community Psychology, 28,* 169-186.

Vogel, D., Wade, N., Wester, S., Larson, L., Hackler, A. (2007). Seeking help from a mental health professional: The influence of one's social network. *Journal of Clinical Psychology, 63*, 233-245.

The Influence Of Indirect Collective Trauma On First Responders' Alcohol Use

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Abstract: *Previous research has suggested increased risk for negative outcomes such as increased alcohol use among first responders who are involved with the response to a community disaster; however, it is not clear how indirect exposure to a critical incident impacts first responders. This work examined the impact of secondary or indirect trauma on changes in alcohol use among urban firefighters who were not directly involved in the response to a large scale community-level disaster. Firefighters enrolled in larger trial of health outcomes whose interview period coincided with the crash of a commercial airplane were the basis for the current report. Aggregate level data on changes in alcohol consumption for these firefighters were examined pre- and post-incident. There was a significant increase in alcohol use following the critical incident. This increase did not occur immediately; it was observed within several days and peaked about 8 days post-incident. Post-hoc analyses revealed that the increased alcohol consumption persisted for several months, finally returning to pre-incident levels by 8 months post-incident. Indirect trauma effects, likely operationalized in part through the "brotherhood" of the firefighters, clearly placed firefighters at risk for negative outcomes following a disaster. Intervention/prevention efforts aimed at distress reduction among first responders should not solely focus on responders with direct involvement in a disaster. [International Journal of Emergency Mental Health, 2012, 14(1), pp. 21-28].*

Key words: *alcohol consumption; first responders; disaster; critical incident*

First responders face a variety of traumatic, critical incidents in their daily job tasks. Polk and Mitchell (2008) describe critical incidents as "severe events that can overwhelm a person's or group's ability to cope" and that these events "disrupt normal functions" (page 9). These incidents include events such as fires, shootings, and accidents that may impact a smaller number of people or limited geographical area, but these incidents can also include larger scale events that impact a greater number of people and wider geographical area such as a whole community. Previous research has sug-

gested that contextual elements, such as event type, duration of the event, etc., can impact the psychological and physical responses among first responders to such events (Benedek, Fullerton, & Ursano, 2007).

Among community samples, there is evidence of a dose-response curve between with individuals with greater levels of exposure having greater levels of psychological impairment (Shore, Tatum, & Vollmer, 1986). Similarly, high exposure among rescue workers has also been found to be significantly related to psychological impairment. For example, Fullerton and colleagues (Fullerton, Ursano, & Wang, 2004) examined acute stress disorder, post-traumatic stress disorder (PTSD); and depression among disaster/rescue workers following an airline disaster and found that exposed workers had higher rates of depression 7 months post-disaster and that those with high exposure were more likely to develop PTSD. Important, however, is the finding that unexposed comparison subjects also had significant rates of depression, PTSD or acute stress disorder (20.4%). These rates are significantly higher compared to the population in general. Thus, indirect exposure (i.e., individuals without direct involvement with the response) to large scale critical incidents can increase risk among individuals.

Given the anxiety reducing impact of alcohol, (Kushner, Abrams, & Borchardt, 2000) it is possible that increased alcohol intake following a critical incident is used by some as a coping mechanism (Carpenter & Basin, 1999). However, it has been suggested that the short term anxiety reducing impacts from alcohol may, in fact, lead to greater levels of anxiety and a greater likelihood of problematic alcohol use in the long term (Kushner et al., 2000). This complex association between stress/anxiety and alcohol use may be exacerbated by critical incidents. Grieger and colleagues (Grieger, Fullerton, Ursano, & Reeves, 2003) found a significant relationship between alcohol use and acute stress disorder among hospital staff following a series of sniper attacks in Washington, DC. In general, higher levels of alcohol use among first responders is also not uncommon. For example, Boxer and Wild (1993) found that 29% of a sample 145 firefighters had possible or probable problematic alcohol use. Additionally, we have also found high levels of heavy drinking and hazardous drinking among a sample of urban firefighters (Carey, Al-Zaiti, Dean, Sessanna, & Finnell, 2011).

Social networks and alcohol use are also highly related. For example, we have found that the number of heavy drink-ers in a social network is longitudinally predictive of heavy drinking and problem drinking (Leonard & Homish, 2008) and that changes in drinking longitudinally impact changes in the social network (Homish & Leonard, 2008a). The significant interrelationship between social networks and alcohol may be particularly important for firefighters, individuals who, unlike other professionals, work and live together during their shifts at the fire houses. Firefighters tend to have strong social bonds and develop a "brotherhood"—that is, a strong interpersonal connection that is deeply rooted among firefighters (Crosby, 2007a). The social connections among firefighters may help to reduce stress (Regehr, Hill, Knott, & Sault, 2003); however, it is also possible that negative coping mechanisms (e.g., heavy alcohol use) may also spread among this interconnected group of individuals. Because of the strong emotional bonds among firefighters and within firehouses, emotional contagion, the concept whereby one person's emotional state influences another, (Fletcher, 2009; Hatfield, Cacioppo, & Rapson, 1994) may also impact firefighters' health, health behaviors, and well-being.

Given high occupational stress, tight bonds among firefighters, extended work hours in which firefighters work and live with each other during their shifts, it is also possible that health behaviors of one firefighter influence other firefighters. This may promote positive behavior; however, it is also possible that negative behaviors (e.g., using alcohol as a coping mechanism) can spread. The tight bond, or brotherhood, could also place firefighters at risk when another of their brotherhood is involved in a critical incident. For example, collective trauma describes an event that disrupts "social life that damages the bonds attaching people together and impairs the prevailing sense of communality" (Myers, 1994, p. 1). There is also evidence that individuals who are unaffected directly by a disaster can be negatively impacted (Myers, 1991). This has been described as "vicarious traumatization," "secondary traumatization," or "compassion fatigue" (Palm, Polusny, & Follette, 2004). The indirect impact of trauma can affect family, friends, or work colleagues. Thus, firefighters, with their tight bonds and extended time together, may be particularly vulnerable to secondary trauma and, subsequently, may have increased negative health behaviors (e.g., increased alcohol use).

Using a sample of urban, paid firefighters, the goal of this research was to examine changes in alcohol use following a critical incident. Importantly, however, this research will examine how secondary traumatization or indirect exposure,

operationalized through the "brotherhood" of firefighters, is related to changes in alcohol use pre- and post-critical incident. It is hypothesized that firefighters not directly involved in the response to a critical incident will experience an increase in alcohol use following the event.

METHOD

Subjects for this report were enrolled in an ongoing, larger study. The SAFFE study (**S**urveying and **A**ssessing **F**irefighters **F**itness and **E**lectrocardiogram) is a National Institute of Health-funded cross-sectional descriptive study to characterize firefighters' physiological responses while on-duty (Carey, Al-Zaiti, & Butler, 2010). The SAFFE study recruited firefighters from 13 firehouses in a metropolitan area of nearly 300,000 residents. Each firehouse had approximately 45 firefighters in 4 platoons that work in an extended rotating shifts schedule, 2 day shifts (10 hours), 2 night shifts (14 hours), followed by 4 off-duty days.

All firefighters were eligible to participate. Recruitment was based on non-probability sampling; however, to minimize sampling bias, every possible effort was made to approach all eligible firefighters until the full sample was obtained. The research team, composed of the principal investigator and four research assistants, travelled among the firehouses and recruited from all platoons. In a quiet, private room, consent was obtained and six paper-and-pencil surveys were completed. The research protocol was approved by the State University of New York at Buffalo's Institutional Review Board. The surveys were used to assess sleep problems, substance use (alcohol, caffeine, and nicotine), social bonding, and quality of life (physical and mental well-being). The current report focuses on changes in alcohol use.

Participants

A sample of 112 urban, paid firefighters (n=112, 16% of target population) was enrolled from six different fire houses from the fire department. All firefighters completed the six paper-and-pencil surveys. The firefighters were 43.6 + 7.7 years old. The majority of the sample consisted of men (95% male). In terms of race/ethnicity, the sample was 81% Caucasian, 13% African American, and 6% Hispanic. The sample's demographics were similar to that of the fire department as a whole.

Outcome Measure: Alcohol Use

The Time Line Follow Back (TLFB; Sobell, Maisto, Sobell, & Cooper, 1979) survey was used to characterize alcohol use. TLFB uses a calendar to estimate the daily alcohol use over the past two weeks, beginning from the day of recruitment. To aid in recall, the TLFB approach personalizes calendars for each participant by placing personally relevant events on the calendar (e.g., birthday, parties, etc.). Working backwards, the firefighters recorded for every day the number of alcoholic drinks; reported as a standard drink, for example, one 12 oz beer equaled one drink. Thus, the TLFB captures 14 days of alcohol use per firefighter. Although interview data is available for over a one year period, the current analysis focuses on a one month time frame (two weeks pre and post critical incident (described below)).

Critical Incident

The critical incident for this report was the crash of a commercial plane. Based on information from a panel convened by the National Transportation Safety Board(Babcock, 2009), Continental Connection flight 3407, operated by Colgan Air, Inc., crashed at 10:17 PM, Eastern Standard Time on February 12, 2009 in Clarence Center, NY. The flight was on an instrument approach to Runway 23 at the Buffalo-Niagara International Airport, Buffalo, NY. The flight originated from Liberty International Airport, Newark, New Jersey. Four flight crew members, 45 passengers and one person on the ground were fatally injured. It is important to note that the incident occurred outside of the jurisdiction of the city fire department (the sample for the SAFFE Study); however, given the magnitude of the event, one team was deployed to the scene to assist in extinguishing the massive fire. It should be noted that all firefighters who responded to the incident were invited to participate in a confidential critical incident stress management program which spans the 3 phases of the crisis spectrum: pre-crisis phase, acute crisis phase, and post-crisis phase. These firefighters were not included in the current analyses.

Statistical Analysis

An Autoregressive Integrated Moving Average Model (ARIMA; Box, Jenkins, & Reinsel, 1994) was used to determine if there was a statistically significant difference

in aggregate group-level alcohol use pre and post critical incident. Unlike other longitudinal data analysis models (e.g., multilevel regression model) that focus on changes among individuals, ARIMA models are designed to examine time series data about groups. As described in more detail below, the larger study was not designed to consider pre-post alcohol use following a disaster as it would not be possible to predict the timing of the disaster; therefore, participants in the ongoing study whose assessment window overlapped our critical incident were eligible for the study. Thus, statements of change are generalized to the group and the ARIMA model is ideal for addressing group changes. All statistical analyses were performed with Stata (Version 11.2 MP). .

RESULTS

In the full sample, the majority of the firefighters used alcohol at least once in the previous 2 week period (78.5%, n= 88). The average number of standard alcoholic drinks per drinking day was 1.6 (+1.7 standard alcoholic drinks per day, range 0.0-9.7). Slightly more than half (56%) reported heavy drinking (5 or more drinks on an occasion) at least once in the 14 day period. For the current report, we were interested in changes in drinking 2 weeks prior and 2 weeks following the critical incident (plane crash described above). Although the SAFFE is a cross-sectional study, the two week daily data from the TLFB allows for the analysis of changes in alcohol use pre and post critical incident using aggregate time series analyses. Thus, firefighters who were interviewed at least one month following the incident provided data for the current report (the TLFB captured two weeks' worth of data, therefore, 2 weeks beyond the observation window would provide one day of data).

To ensure that the firefighters in the current report generalized to the larger sample of firefighters, we compared alcohol use among those in the current report (those who were interviewed within one month of the critical incident) and those who were interviewed either earlier than 2 weeks prior to the critical or at least one month after the critical incident). The proportion that drank any alcohol was not significantly different among the two groups (75.0% vs. 73.1%, NS). Additionally, there were no statistically significant differences in heavy drinking (five or more drinks) among the two groups (61.7% vs. 50.0%, NS). In the ARIMA model, there was evidence that alcohol use among these firefighters

Figure 1.

Change in Aggregate Alcohol Use Pre & Post Critical Incident

significantly increased pre to post critical incident (regression coefficient = 13.6; 95% confidence interval: 8.7-18.6; p < .001; Figure 1).

As shown in Figure 1, the increase in alcohol use did not immediately occur, but appeared after several days. After the peak occurred (about 8 days post-critical incident, there appeared to be a decline in alcohol use). To examine when aggregate drinking in the firefighters returned to pre-critical incident levels, two additional post-hoc ARIMA models were used with larger observation windows In the first post-hoc ARIMA model, the observation windowed was extended to May, 2009, three months post incident. A significant effect of the critical incident on changes in aggregate alcohol use over time remained (regression coefficient = 8.3; 95% confidence interval: 1.01-16.7; p < .05); however, there was a reduction in magnitude of the increase (as indicated by the smaller regression coefficient compared to the first model). In the final model, the observation window was widened to cover the period ending October 4. In this model, the critical incident was no longer significant, thus, by 6 months post incident, aggregate alcohol use retuned to pre-event levels.

DISCUSSION

It is well established that the Nation's public health needs are protected by a diverse array of disciplines. First responders, a key component of public health, face a variety of traumatic incidents in their everyday work. For example, Regehr and colleagues (2000) found that 78% of firefighters had been exposed to at least one critical incident. There is evidence that, as a result of exposure to such events, higher rates of mental health and substance use issues arise (Andrew et al., 2008; Benedek et al., 2007; Boxer & Wild, 1993). It is less clear how critical incidents impact the health behaviors of first responders without a direct role in the incident.

The purpose of this work was to examine the potential impact of a critical incident on alcohol use among firefighters without direct involvement in a large, community-wide disaster. In the current report, there was evidence that, following a plane crash, firefighters increased their alcohol consumption. Although the firefighters for this report were not directly involved in the response to the plane crash, one response team from their department and more than a dozen volunteer fire departments responded to the crash. Thus, although the firefighters for the current report were not directly involved, others in their "brotherhood" were

directly involved. Interestingly, the increase in alcohol use was not within the first 24 hours of the critical incident, but rather delayed by several days. This suggests the vicarious trauma effect was intensified as stories of involvement in the incident circulated among the responders. This phenomenon is similar to the media effect that occurs after a large disaster where increased media exposure, even among the uninvolved, increases the likelihood of distress (Heckathorn, 2002).

First responders and firefighters in particular, are a tight knit group of individuals. This "brotherhood" is defined among firefighters as a common willingness to face danger and to do whatever is necessary to help one another (Crosby, 2007b). This tight bond may develop, in part, because of the extended time which firefighters spend together at the firehouse. This close connection can provide firefighters with a strong social network in which coping and emotional healing can occur following traumatic events. Further, some studies have found that when lower levels of support (i.e., those firefighters who feel a less close connection) exist among firefighters, this makes them more vulnerable to depression and stress (Regehr et al., 2000).

In addition to decreased social support leading to increased distress, it is also possible that the nature of the social network may increase distress. For example, emotional contagion, whereby one person's negative health outcomes are associated with an increased likelihood of a close other's negative health outcome, is more likely to occur among closely connected individuals. There is evidence among family systems that one person's negative health behaviors have a direct impact on others in the family network (Homish & Leonard, 2008b; Homish, Leonard, & Kearns-Bodkin, 2006). Similarly, the notion of vicarious or secondary trauma may explain the apparent "spread" of negative health behaviors among closely connected social networks such as the "brotherhood" among urban firefighters.

In the current report, we also found that the increases in alcohol use were persistent post-critical incident. The return to pre-incident drinking levels did not occur until about 7 months. This long lasting impact of a disaster is not uncommon. For example, McFarlane (1988) assessed firefighters 4 and 8 months after a large brush fire disaster and found elevated symptoms of PTSD at both of these assessments. Similarly, Fullerton and colleagues (Fullerton et al., 2004) found higher rates of PTSD and depression among disaster works 13 months after their response to an airplane crash.

Higher baseline rates of alcohol use, coupled with job stress brought about by extended shifts, rotating schedules, and critical incidents, place firefighters at an increased risk for negative health outcomes such as depression or alcohol abuse/dependence. Further, there is evidence that increases in alcohol use following disaster are associated with higher levels of depressive symptoms as well as PTSD symptoms (Cardenas, Williams, Wilson, Fanouraki, & Singh, 2003). Alcohol abuse/dependence may also lead to an increased risk for suicide (Pompili et al., 2010).

There are several key implications of the current research. First, organizational support for wellness can be important for promoting health. Efforts to minimize alcohol use and instead support healthy life styles and promote resiliency can be achieved in part by the organization's provision of pre-incident training and during/post-incident critical incident stress management services for both on-scene and off-scene responders. Further, education about alcohol use should be provided to firefighters early, ideally during the firefighters period as new recruits. Additional elements of a successful early intervention program include a strategic approach, a comprehensive package of tactics, procedures, and interventions, organizational endorsement of the program, and follow-up and referral programs (Mitchell, 2004). The background of the provider may also have implications for how messages of resiliency are communicated. For example, while some departments have Employee Assistance Programs (EAP), many responders do not trust EAP staff to understand the nature of their work, and therefore opt to forego the availability of this resource. The effectiveness, therefore, of critical incident stress management programs can be enhanced via the use of specially trained firefighters to serve as Peer Counselors. The effectiveness of peer support is believed to derive from a variety of psychosocial processes including social support, experiential knowledge, social learning theory, social comparison theory, and the helper-therapy principle. Individuals are more comfortable interacting with others who share common characteristics with themselves, in order to establish a sense of normalcy (Salzer, 2002). Second, the principles of self-care should include provisions for dealing with vicarious trauma. Self-care is training to help responders before, during, and after critical incidents (Vernberg et al., 2008). It tends to focus on four different areas: personal, health, family and work (Vernberg et al., 2008). It is also important to note that prin-ciples of self-care should be provided to all individuals who may deal with difficult or traumatic circumstances. Given the potential for critical incidents to impact a larger group of first responders than simply those directly involved, self-care training that includes information on vicarious trauma should be offered to all individuals charged with dealing with the public during an emergency. Third, the impact of a critical incident on health may not occur immediately following the critical incident. As noted in the current report, the increase in alcohol use was not apparent for several days following the incident. Finally, the negative health consequence of critical incidents may extend to a long duration; therefore, responders should be offered services to assist them for extended periods beyond the critical incident. In other work, we found that responders to a critical incident often benefit from having additional mental health services available for at least 10 months post-incident (Homish, Frazer, McCartan, & Billittier, 2010).

There are several limitations that must be considered when interpreting the findings from the current report. The current report relied on aggregated time series analysis; thus, information about individual firefighters cannot be evaluated from the current work. This analytic technique, however, was able to appropriately assess pre-and post- critical incident changes in alcohol use. Because the larger main study was an ongoing, cross-sectional design, we were not able to use a pre-post study design to capture changes in alcohol use among the same individuals over time. However, given the two-week daily data assessments of alcohol use, we were able to examine alcohol use for all firefighters whose two-week window of data collection overlapped the observation window before or after the critical incident.

Another limitation is that the sample focuses solely on urban, paid firefighters. It is also not clear how these findings may translate to other groups of responders. Despite these limitations, this research allowed us to consider a topic that has not been addressed in the literature—the impact of a critical incident on alcohol use among firefighters without direct exposure to the event. Future work should examine other health outcomes, such as Posttraumatic Stress Disorder symptomatology, depressive symptomatology, and other substance use behaviors of first responders whose colleagues have been involved in a critical incident response.

REFERENCES.

Andrew, M. E., McCanlies, E. C., Burchfiel, C. M., Charles, L. E., Hartley, T. A., Fekedulegn, D., & Violanti, J. M. (2008). Hardiness and psychological distress in a cohort of police officers. *Int J Emerg Ment Health, 10*(2), 137-147.

Babcock, C. (2009). *Cockpit Voice Recorder, Addendum 12, Group Chairman's Addendum to Factual Report.* (Docket No. SA-531; Exhibit No. 12-B). Washington, DC.

Benedek, D. M., Fullerton, C., & Ursano, R. J. (2007). First responders: Mental health consequences of natural and human-made disasters for public health and public safety workers. [Review]. *Annual Review of Public Health, 28,* 55-68. doi: 10.1146/annurev.publhealth.28.021406.144037

Box, G., Jenkins, G., & Reinsel, G. (1994). *Time series analysis: forecasting and control.* (3rd ed.). Englewood Cliffs: Princton-Hall International.

Boxer, P. A., & Wild, D. (1993). Psychological distress and alcohol use among firefighters. *Scand J Environ Health, 19*, 121-125.

Cardenas, J., Williams, K., Wilson, J. P., Fanouraki, G., & Singh, A. (2003). PSTD, major depressive symptoms, and substance abuse following September 11, 2001, in a midwestern university population. *International journal of emergency mental health, 5*(1), 15-28.

Carey, M. G., Al-Zaiti, S. S., & Butler, R. A. (2010). Characteristics of the standard 12-lead Holter ECG in professional firefighters. *Computing in Cardiology*(26-29), 685-688.

Carey, M. G., AL-Zaiti, S. S., Dean, G. E., Sessanna, L., & Finnell, D. S. (2011). Sleep problems, depression, substance use, social bonding, and quality of life in professional fire fighters. *Journal of Occupational & Environmental Medicine, 53*(8), 928-933.

Carpenter, K. M., & Basin, D. (1999). Drinking to cope with negative affect and DSM-IV alcohol use disorders: A test of three alternative explanations. *Journal of Studies on Alcohol, 60,* 694-704.

Crosby, F. (2007a). The Real Meaning of Brotherhood. *Fire Engineering.*

Crosby, F. (2007b). The Real Meaning of Brotherhood. [Article]. *Fire Engineering, 160*(7), 107-110.

Fletcher, J. (2009). All in the Family: Mental Health Spillover Effects between Working Spouses. [Article]. B.E.

Journals of Economic Analysis & Policy: Contributions to Economic Analysis & Policy, 9(1), 1-19.

Fullerton, C. S., Ursano, R. J., & Wang, L. (2004). Acute stress disorder, posttraumatic stress disorder, and depression in disaster or rescue workers. *American Journal of Psychiatry, 161*(8), 1370.

Grieger, T. A., Fullerton, C. S., Ursano, R. J., & Reeves, J. J. (2003). Acute Stress Disorder, Alcohol Use, and Perception of Safety Among Hospital Staff After the Sniper Attacks. *Psychiatric Services, 54*(10), 1383-1387. doi: 10.1176/appi.ps.54.10.1383

Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1994). *Emotional contagion.* New York, NY ; Paris, France: Cambridge University Press; Editions de la Maison des Sciences de l'Homme.

Heckathorn, D. D. (2002). Respondent-driven sampling II: deriving valid population estimates from chain-referral samples of hidden populations. *Social Problems, 49(*1), 11-34.

Homish, G. G., Frazer, B. S., McCartan, D. P., & Billittier, A. J. (2010). Emergency mental health: lessons learned from flight 3407. *Disaster Med Public Health Prep, 4*(4), 326-331. doi: 4/4/326 [pii] 10.1001/dmp.2010.33

Homish, G. G., & Leonard, K. E. (2008a). The social network and alcohol use. *J Stud Alcohol Drugs, 69*(6), 906-914.

Homish, G. G., & Leonard, K. E. (2008b). Spousal Influence on General Health Behaviors in a Community Sample. *American Journal of Health Behavior, 32(*6), 754-763.

Homish, G. G., Leonard, K. E., & Kearns-Bodkin, J. N. (2006). Alcohol use, alcohol problems, and depressive symptomatology among newly married couples. *Drug and Alcohol Dependence, 83*(3), 185-192.

Kushner, M. G., Abrams, K., & Borchardt, C. (2000). The relationship between anxiety disorders and alcohol use disorders: A review of major perspectives and findings. *Clinical Psychology Review, 20*(2), 149-171. doi: Doi: 10.1016/s0272-7358(99)00027-6

Leonard, K. E., & Homish, G. G. (2008). Predictors of heavy drinking and drinking problems over the first 4 years of marriage. *Psychology of Addictive Behaviors, 22*(1), 25-35. doi: 10.1037/0893-164X.22.1.25

McFarlane, A. (1988). The aetiology of post-traumatic stress disorders following a natural disaster. *The British Journal of Psychiatry, 152*(1), 116-121. doi: 10.1192/bjp.152.1.116

Mitchell, J. T. (2004). Characteristics of successful early intervention programs. *International journal of emergency mental health.*

Myers, D. (1991). Emotional recovery from the Loma Prieta earthquake. *Networks: Earthquake Preparedness News, 6*(1), 6-7.

Myers, D. (1994). *Disaster Response And Recovery: A Handbook For Mental Health Professionals* (Vol. 2011): US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

Palm, K. M., Polusny, M. A., & Follette, V. M. (2004). Vicarious Traumatization: Potential Hazards and Interventions for Disaster and Trauma Worker. *Prehospital and Disaster Medicine, 19*(1), 73-78.

Polk, D. A., & Mitchell, J. T. (2008). *Prehospital Behavioral Emergencies and Crisis Response*. Boston: Jones & Bartlett Learning.

Pompili, M., Serafini, G., Innamorati, M., Dominici, G., Ferracuti, S., Kotzalidis, G. D., . . . Tatarelli, R. (2010). Suicidal Behavior and Alcohol Abuse. I*nternational Journal of Environmental Research and Public Health, 7*(4), 1392.

Regehr, C., Hill, J., & Glancy, G. D. (2000). Individual Predictors of Traumatic Reactions in Firefighters. *Journal of Nervous & Mental Disease, 188(*6), 333-339.

Regehr, C., Hill, J., Knott, T., & Sault, B. (2003). Social support, self-efficacy and trauma in new recruits and experienced firefighters. *Stress and Health, 19*(4), 189-193. doi: 10.1002/smi.974

Salzer, M. S. (2002). Consumer-delivered services as a best practice in mental health care delivery and the development of practice guidelines. *Psychiatric Rehabilitation Skills, 6*(3), 355-382.

Shore, J. H., Tatum, E. L., & Vollmer, W. M. (1986). Psychiatric reactions to disaster: the Mount St. Helens experience. *American Journal of Psychiatry, 143*(5), 590-595.

Sobell, L. C., Maisto, S. A., Sobell, M. B., & Cooper, A. M. (1979). Reliability of alcohol abusers' self-reports of drinking behavior. *Behaviour Research and Therapy, 17*(2), 157-160. doi: Doi: 10.1016/0005-7967(79)90025-1

Vernberg, E., Steinberg, A., Jacobs, A., Brymer, M., Watson, P., Osofsky, J., Ruzek, J. (2008). Innovations in disaster mental health: *Psychological first aid. Professional Psychology: Research and Practice, 39*(4), 381-388.

The Effectiveness of Cumulative Stress Debriefings
With Law Enforcement Personnel

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Abstract: *This article describes an intervention based on the Mitchel and Everly (1995) model of Critical Incident Stress Management, yet used to address the cumulative stress associated with being a police officer. This intervention occurred for eight weeks with thirty-eight police officers, while on duty. Half of this group met once a week as part of the treatment condition. There was no statistical difference between the control and treatment group. These officers viewed the intervention as helpful and reported that it should continue, which it did with one of the treatment groups. Implications for addressing the psychological needs of police officers and for future research are discussed. [International Journal of Emergency Mental Health, 2012, 14(1), pp. 29-35].*

Key words: *law enforcement, cumulative stress, debriefing.*

Officers Miller and Austin answer their third domestic dispute call of the night. Once on the scene, they are confronted by a critically injured woman screaming at them for help. Across town Officer Rodriguez, the first officer on the scene, is confronted with a naked man running in a busy intersection, chasing passing cars, and yelling at stunned onlookers in nearby restaurants. At another site, Officer Long observes a man running out of a business. Just as Officer Long confronts the man, he reaches into his pocket and jerks out what appears to be a gun. Responding quickly, Officer Long draws her weapon and fires. What do these scenarios have in common? In addition to being professional law enforcement personnel responding to assaults, murders, rapes, and other ghastly events, these officers also share the stressors that are so prevalent in the daily work of police officers. Although

the above cases may sound fictional, they are actual events that occur daily. Needless to say, these events are unwanted, often unanticipated, and highly stressful. Facing these events day-after-day and week-after-week results in higher and higher levels of stress.

Many researchers (Bowenkamp, 1995; Dyregrov, 1999; Fullerton, McCarroll, Ursano, & Wright, 1992; McWhirter & Linzer, 1994) have focused on the effectiveness of critical incident stress debriefings and other similar interventions with Fire Department and Emergency Medical Services personnel. A few studies (Bohl, 1991; Carlier, Voerman, and Gersons, 2000; Robinson, Sigman, and Wilson 1997) have examined the effectiveness of psychological interventions with police officers after a critical incident. Little has been done in the area of addressing the cumulative stress of law enforcement personnel. Ayoob (1980) reported that officers who did not receive professional help regarding their involvement in a deadly force incident faced a 70% greater chance of leaving

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the police force within five years. Brubaker (2002) found that while the majority of officers, despite facing many incidents, felt tactically prepared to encounter a deadly force incident, they were not prepared for the psychological impact upon themselves, their families, and their department after the incident (p. 11). In the daily work of a police officer, stress occurring day-after-day is cumulative. This is a stress that "adds up." Yet this cumulative stress is usually not addressed with ongoing, formal intervention (Hayes, 1999). Instead, police officers are often left alone to devise their own coping methods. In many cases, the stress takes its toll in the personal lives of the officers. Researchers reported that police officers have higher rates of domestic problems, spousal abuse, divorce, alcohol abuse, somatization, anxiety, depression, and other stress–related behaviors (Deahl, Srinivasan, Jones, Nebletl & Jolly, 2001; Harpold & Feemster, 2001; Leventhal, 1978; Martin, 1981; Mitchell & Everly, 1995).

According to Graf (1986), what police officers, and emergency service personnel in general, need in order to deal effectively with stress is social support. Graf found that an increase in number of supportive persons in an officer's social support system, correlates significantly with a decrease in perceived occupational stress, regardless of whether or not those supportive people are associated with work. Another interesting finding in this article is that sources of stress internal to the department (e.g. supervisors, politics, lack of support services) were much more distressing than external sources of stress (e.g. interaction with the pubic).

As the above researchers indicated, there is a need to help police officers deal with stress. Pinizzotto, Davis, and Miller (2002) focused on the importance of addressing the emotional health of officers and concluded that "officers may not realize how their emotional and psychological health can work either for or against them. To react appropriately under demanding and life threatening circumstances, an officer's physical and emotional condition prove vitally important (p. 4)." Given the various researchers who have pointed to the negative impact of job-related stress in a police officer's personal and professional life, a salient question arises: If stress cannot be avoided, then how might its negative impact be addressed and reduced? This study was designed to focus on and reduce the cumulative stress experienced by police officers through a small group intervention that focused on coping with stress.

METHOD

Participants were sought by contacting police officers in a police department in a mid-sized town in the southwest. The police department consisted of approximately 300 officers; the vast majority of the officers in the department were men; only 15 officers were women. Only sworn police officers employed full-time and in active service were eligible to participate in this study. Using the above criteria to obtain participants, 38 officers participated in this research study. The participants were divided into a treatment group and a control group, with a pre/post test design.

At pre-test, there were 11 officers from the patrol division and nine officers from the investigations division in the treatment group. The control group consisted of nine officers from the patrol division and nine officers from the investigation division. Officers interested in the treatment group were assigned to it. Those not interested, or who indicated their interest in the treatment group once an even distribution was obtained across both research conditions, were assigned to the control group. At post-test, the configuration of the treatment and control group remained the same except one officer, an investigator, dropped out of the control group. He stated that he did not have enough time to participate in the study.

Instrumentation

A Demographic Questionnaire and three instruments were administered together to the participants in the treatment group and control group. The three instruments were: the Impact of Events Scale – Revised, the Beck Depression Inventory, and the Social Readjustment Rating Scale. The three instruments were administered to both the control and treatment groups before and after treatment.

The Impact of Events Scale – Revised (IES-R) is a 22-item instrument that asks about the extent to which the respondent is distressed or bothered by specific symptoms. An example of a typical item is: "I thought about it when I didn't mean to." The respondent answers each of the 22 items using a Likert scale from 1 (not at all) to 4 (extremely), in which the respondent answers whether he/she experienced a symptom in relation to a specific event. Specifically, the respondents were instructed to indicate how distressing each symptom had been during the previous two weeks. There are three subscales on the IES-R. The subscales are: intrustion, avoidance, and hyperarousal. With regard to internal consistency,

Weiss and Marmar (1997) reported the Intrusion Subscale of the IES-R to be between .87 and .92, the Avoidance Subscale to be between .84 and .86, and the Hyperarousal Subscale to be between .79 and .92.

The Beck Depression Inventory (BDI) is used to measure the severity of depression in adolescents and adults (Carlson, 1998). The BDI consists of 21 questions, and takes about 15 minutes to complete. An example of a typical question is: "I do not feel sad, I feel sad, I am sad all the time and I can't snap out of it, I am so sad or unhappy that I can't stand it" with the first option scoring a zero, the second option a one, the third option a two and the final option, which is most intense, scoring a three. The BDI consists of two subscales, the cognitive-affective subscale (items one through 13) and the somatic-performance subscale (items 14 through 21).

The BDI has moderate correlations with the MMPI Depression Scale (.76). The alpha reliability coefficients for the BDI across six samples were reported as .79 to .90 (Carlson, 1998).

The Miller and Rahe Social Readjustment Rating Scale (SRRS; 1997) is a checklist of stressful events. The SRRS lists 42 stressful events by level of severity and takes approximately five minutes to complete. An example of a typical item is death of a spouse. Scully, Tosi, and Banning (2000) studied the SRRS and found that it is able to predict stress-related outcomes, especially when examining stress that occurred within the last 12 months. They concluded that it is a "robust" instrument that is useful in "identifying the potential for the occurrence of stress-related outcomes" (p. 875).

Demographic information was collected; this included age, gender, ethnicity, rank, years employed as a police officer, number of treatment sessions attended, and shift/hours typically worked. The treatment group was asked two questions about the group meetings.

Intervention

The research design consisted of a pre-test and post-test of participants in the treatment condition and the control condition, before and after treatment (cumulative stress debriefings).

While on duty, officers in the treatment condition met once a week as a group with the researcher. The participants from the patrol division met in a conference room in the middle of town in a building not associated with the police department. Participants from the investigations division met in a conference room in the juvenile investigations section of the department.

In each of these meetings an officer trained in Critical Incident Stress Management also participated. Each officer was asked to respond to the question: "What was the most difficult thing you had to deal with this week in your work as a police officer?" If the officer described a situation that was stressful or distressing, then the follow-up questions were "What were the thoughts you had about this event once you had time to reflect on it;" "What was the worst part of this event;" and "Have you experienced any physical symptoms afterwards and if so, what were they?" While the officer was responding to these questions, many times other officers would offer social support, cognitive reframes, and help problem solve. After each officer had the opportunity to respond, the researcher summarized the major themes of the meeting and offered information on common stress reactions and how to cope with these reactions. It was rare in these meetings for an officer to pass or say "I don't have anything to talk about." Once the meeting concluded officers returned to work, some after visiting with the researcher.

Group members answered each prompt for themselves, yet the group typically then moved into a free discussion of the topics introduced by individual officers. Discussions frequently focused on departmental and supervisory dynamics, the practical aspects of law enforcement (e.g. how callouts are managed or how case loads are assigned).

RESULTS

The data gathered by the Demographic Questionnaire and Assessment Questions were analyzed with a Multivariate Analysis of Covariance (MANCOVA; Tabachnick, & Fidell, 2001). The dependent variables were the scores obtained on the IES-R and the BDI. The SRRS served as a control for non work-related stressors that may influence IES-R and BDI scores.

Tables 1 and 2 give descriptive and demographic information about the research sample. Tables 3 and 4 show the results of the MANCOVA and show no significant difference between the research conditions. The results for the treatment and control conditions on the BDI (F = 2.864, p = .101) and on the IES-R (F = 1.552, p = .223) may represent a trend in the treatment condition towards becoming less depressed, but this trend is not apparent when each of the treatment

Table 1. Descriptive Statistics for Participation Across Research Conditions and Groups					
	Patrol Treatment	Patrol Control	Investigators Treatment	Investigators Control	Total
Pretest	N = 11	N = 9	N = 9	N = 9	N = 38
Posttest	N = 11	N = 9	N = 9	N = 8	N = 37

Table 2. Demographic Information				
Ethnicity	Gender	Average Work Week	Years Experience	Rank
White = 33 Hispanic = 3 Black = 1	Male = 32 Female = 5	Pretest M = 43.81 Pretest M = 44.76	M = 12.61	Patrol = 19 Corp. = 13 Sgt. = 5

and control groups (patrol and investigators) are examined. The comparison of the research condition by group (patrol and investigators) on the BDI (F = .352, p = .557) and on the IES-R (F = .003, p = .956) did not show significance.

Two questions provided some additional information about the treatment intervention. The first question was, "Did you find the in-service meetings to be helpful?" The second question was, "Should these types of meetings be continued?" All of the officers in the treatment group answered yes to the question, "Did you find the in-service meetings to be helpful?" Almost all provided positive feedback in the explanation of their answer. Most viewed these meetings as helpful in relieving stress. Almost all comments centered on the perceived benefits of getting support from other officers and having the opportunity to hear that other officers have similar frustrations and experiences. A few officers commented specifically on the benefits associated with hearing from veteran officers during the meetings. One officer reported, "On the evenings of the meetings I was able to fall asleep faster. I felt better hearing others were stressed about the same issues as I was. The meeting helped me feel like less of a failure, I missed one meeting due to heavy stress and fearing I might cry in front of my coworkers, I opted not to go

and discuss it." This answer reflects some of the benefits and drawbacks associated with the treatment intervention. This answer is also an example of the mutual support experienced by group members.

All of the officers in the treatment group answered yes to the question, "Should these types of meetings be continued?" Most commented that they saw this intervention as helpful in reducing stress, providing insight in to dealing with the problems associated with law enforcement work, providing support, and increasing "officer mental health and welfare." Officers reported in group and on the forms that this was a positive experience for them.

Ongoing Intervention

This study was concluded after the agreed eight weeks of meeting. Officers from the patrol group indicated to the researcher that they would like these groups to continue. However, because of the effect these meetings had on the number of officers in service, continued meetings were not possible. This was not a problem for the investigators group, which also requested these meetings continue. Over the next year the group leader continued to meet with this group and

followed the same protocol. The group met once a month and would give each officer the opportunity to discuss what they found most stressful about their work as a police officer during the preceding month. The group leader would start with one officer, who would answer and then often indicate he or she was finished by turning to the officer next to them. Often, however, one officer's comments would lead another officer to respond, usually in agreement and with elaboration of their own experience with the same stress. This process of normalization was common for these group meetings, and seemed to provide some relief to the participants. Once the free discussion subsided, officers would indicate to the next officer in the circle that it was their turn to participate. This process would continue until everyone had the opportunity to participate. In every meeting the entire hour allotted was used.

The group leader would most often paraphrase what was said. On occasion the group leader would need to let officers know how much time was left, in order to give each officer the opportunity to participate. At the end of each meeting, officers typically turned to the group leader for suggestions or guidance. The group leader often offered teaching regarding how to manage situations that were not under one's control (e.g. emotion-focused coping and operating from an internally derived set of values regardless of circumstances), affirm the reasons for frustration discussed during the meeting, and paraphrase the positive statements made during the meeting (e.g. comments regarding how officers found most of their job satisfaction came from helping their coworkers and seeing a case through to prosecution). Once this teaching phase concluded, officers returned to their duties.

DISCUSSION

High rates of domestic problems, spousal abuse, divorce, alcohol abuse, somatization, anxiety, depression and other stress-related behaviors among police officers must be addressed through organized and professional mental health interventions. Officers can benefit from periodic interventions that address accumulated stress, critical incident stress, and the stress associated with working in a military-style hierarchy. Consistent with the findings of Graf (1986), there seems to be something therapeutic about an intervention that employs one's peers as a source of social support.

The results of this study indicated a trend towards improvement in the areas of depression and Posttraumatic Stress Disorder symptoms for the officers involved in the treatment groups. The trend of the treatment condition scores towards improvement can be seen in the treatment/control condition effect score in Table 4 (F = 2.449, p = .104). This trend is also seen in the treatment/control condition effect for the BDI scores in Table 3 (F = 2.864, p = .101). This trend is not apparent when one looks closely at the treatment effects by group (patrol and investigator).

It seems that one group (patrol or investigator) responded differently than the other to the intervention. One reason for this may be that some extraneous variables (environmental stressors) affected patrol officers and investigators in different ways. Another possible explanation is that the investigators who participated in the treatment worked in what many believe to be the most stressful units (homicide and juvenile), while the control group participants were drawn from less

Table 3. MANCOVA Results for Research Conditions on BDI and IES-R Scores			
	F	P	Partial Eta Squared
Treatment/Control Condition Effect			
BDI Score Posttest	2.864	.101	.087
IES-R Score Posttest	1.552	.223	.049
Treatment/Control/Patrol/Investigators Effect			
BDI Score Posttest	0.352	.557	.012
IES-R Score Posttest	0.003	.956	.000

	Wilk's λ	p	Partial Eta Squared
Table 4. **MANCOVA Results for Research Condition Differences.**			
Treatment/Control Condition Effect	.855	.104	.145
Treatment/Control/Patrol/Investigators Effect	.988	.837	.012

stressful units (forgery and property crime).

The participation of these officers in this study in itself is remarkable. Group therapy with officers while on duty is rare and was not found in the literature. Furthermore, studies of interventions that endeavored to address the critical incident stress and cumulative stress experienced by officers were also absent from the literature. Future research should continue to focus on these areas.

All the officers involved in this study viewed this treatment as positive and helpful. Furthermore, all of these officers thought that this treatment should be continued in some form. Six months after the conclusion of this study I was contacted by the treatment group of investigators who wanted to begin meeting again once a month. We continued to meet for another year, and may meet again soon.

Limitations and Suggestions for Future Research

Though it seems there were benefits for the participants in this study, there were limitations as well. The sample size, though significant considering the population and the intervention used, was small. Also, the sporadic attendance of some of the participants may have influenced the power of the intervention. One officer attended only two meetings, and another attended only three. The other eighteen treatment group participants attended five or more of the eight meetings.

Another limitation may have been the measurements used in this study. A number of officers mentioned that they found issues with administration to be "more stressful" than their work as a police officer. This theme was discussed most often during the meetings. It is possible that critical incident stress and the stress associated with the performance of the duties of a police officer were not the most appropriate out-comes to measure. The intervention in this study may have been effective in reducing the stress associated with administrative frustrations, but not as effective in reducing levels of depression or Posttraumatic Stress Disorder symptoms. This stress may be very different than the stress that is measured by the IES-R. A measure of depression that focuses on job-related stress may suffice as a more sensitive measure. Other measures of job-related stress, job satisfaction, and interactions with administration may have been a more appropriate tool for measuring the effectiveness of this intervention. It is possible that this intervention produced significant change in the participating officers, which was reflected in their perceptions of the intervention. The use of other measures may help in quantifying the effects of this intervention.

A comprehensive theory that includes critical incident stress, cumulative stress, administrative-related stress and how each affects the lives of police officers is needed to facilitate appropriate mental health interventions for law enforcement personnel. Future research can build upon a comprehensive theory and examine these constructs. The need for more precise and appropriate measures of what occurred during the treatment interventions seems to be indicated by the trends toward improvement and the self-report by the participants that this intervention was helpful. Future research may be able to build upon the protocol, measures, theory, and some of the findings of this study.

The study outlined in this article only scratched the surface of the possibly valuable qualitative data that is available to researchers. This author encourages other researchers to focus in this area, especially when studying the needs of police officers. Officers, when comfortable, are quite likely to give open feedback and commentary, and it is this data that may be very helpful in developing programs that meet the psychological needs of police officers.

CONCLUSION

An adaptation of the Mitchell and Everly (1997) model for psychological debriefing can serve to mitigate the psychological effects of being employed in law enforcement. Mental health professionals must continue to find ways to provide for the needs of all emergency service workers, combat veterans, and other groups who must contend with the affects of traumatic events, and of the cumulative stress associated with long term work in these fields. The results of this study provide some information that may aid in the provision of effective mental health services for these populations.

REFERENCES

Ayoob, M. (1980). The killing experience. *Police Product News.*

Bohl, N. (1991). The effectiveness of brief psychological interventions in police officers after critical incidents. In J. Reese, J. Horn, & C. Dunning (Eds.), C*ritical Incidents in Policing* (pp. 31-88). Washington, D.C.: U.S. Government Printing Office.

Bowenkamp, C. (1995). The Los Angeles civil unrest: Implications for future mental health counseling interventions. *Journal of Mental Health Counseling, 17*, 301-311.

Brubaker, L. (2002). Deadly force: A 20-year study of fatal encounters. *F.B.I. Law Enforcement Bulletin, 71*, 6-13.

Carlson, J. (1998). *The Thirteenth Mental Measurements Yearbook.* J. Impara and B. Plake, Eds. Lincoln, NE: The University of Nebraska Press.

Carlier, I., Voerman, A., & Gersons, B. (2000). The influence of occupational debriefing on post-traumatic stress symptomatology in traumatized police officers. B*ritish Journal of Medical Psychology, 73,* 87-98.

Deahl, M., Srinivasan, M., Jones, N., Neblett, C., & Jolly, A. (2001). Evaluating psychological debriefing: Are we measuring the right outcomes? *Journal of Traumatic Stress, 14,* 527-529.

Dyregrov, A. (1999). Helpful and hurtful aspects of psychological debriefing groups. *International Journal of Emergency Mental Health, 3,* 175-181.

Fullerton, C., McCarroll, J., Ursano, R., & Wright, K. (1992). Psychological responses of rescue workers: Fire fighters and trauma. *American Journal of Orthopsychiatry, 62,* 371-378.

Graf, F. (1986). The relationship between social support and occupational stress among police officers. *Journal of Police Science and Administration, 14,* 178-186.

Harpold, M., & Feemster, J. (2002). Negative influences of police stress. *F.B.I. Law Enforcement Bulletin, 70*, 1-7.

Hayes, L. (1999). Breaking the blue wall of silence: Counseling police officers. *Counseling Today,* p. 1,6.

Leventhal, M. (1978). S*tress as a factor of marital failure within the police career.* Nashville: Peabody.Cumulative Stress Debriefings with Officers 16

Martin, C. (1981). Counseling services for law enforcement: A selected bibliography. Monticell, IL: Vance Bibliographies.

McWhirter, W., & Linzer, M. (1994). The provision of critical incident stress debriefing services by EAPs: A case study. *Journal of Mental Health Counseling, 16*, 403-414.

Miller, M., & Rahe, R. (1997). Life changes scaling for the 1990s. *Journal of Psychosomatic Research, 43,* 279-292.

Mitchell, J., & Evelry, G. (1995). Critical incident stress debriefing (CISD) and the prevention of work-related traumatic stress among high risk occupational groups. In G. Everly & J. Mitchell (Eds.), *Psychotraumatology* (pp. 267-280). New York: Plenum Press.

Mitchell, J., & Evelry, G. (1997). *Critical Incident Stress Debriefing: An Operations Manual for the Prevention of Traumatic Stress Among Emergency Services and Disastor Workers.* Maryland: Chevron Publishing Co.

Pinizzotto, A., Davis, E., & Miller, C. (2002). Escape from the killing zone. *F.B.I. Law Enforcement Bulletin, 71,* 1-7.

Robinson, H., Sigman, M., & Wilson, J. (1997). Duty-related stressors and PTSD symptoms in suburban police officers. *Psychological Reports, 81,* 835-845.

Scully, J., Tosi, H., & Banning, K. (2000). Life event checklists: Revisiting the social readjustment rating scale after 30 years. *Education and Psychological Measurement, 60,* 864-876.

Tabachnick, B., & Fidell, L. (2001). *Using Multivariate Statistics.* Boston: Allyn & Bacon.

Weiss, D., & Marmar, C. (1997). The Impact of Event Scale - Revised. In J. Wilson and T. Keane (Eds.), *Assessing psychological trauma and PTSD.* New York: Guildford.

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Abstract: *Police officers are at increased risk for suicide. Reluctance by this population to self-report suicidal thoughts requires detection on a different level. Based on existing theory, this paper discusses a possible alternative method for detecting suicidal tendencies among police officers: the suicide Implicit Association Test (IAT). The IAT measures the implicit strength of cognitive identification with death opposed to life. Previous work has demonstrated that a cognitive identification with death over life is associated with both suicide attempts and completions. The clinical application of implicit cognitions, along with other proven clinical measures, may be of value in detecting suicide ideation in police officers or other high suicide risk groups who are hesitant to explicitly report suicidal thoughts. More research is needed to help clarify the clinical usefulness of the IAT and its validity over time. [International Journal of Emergency Mental Health, 2012, 14(1), pp. 37-40].*

Key words: *police, implicit cognitions, suicide ideation, prevention*

Detection is especially important for populations at increased risk for suicide. Police work is a fertile ground for suicide, with chronic stress, traumatic incident exposure, availability of firearms, and a general mistrust and use of mental health professionals (Violanti, 2007). Epidemiological evidence suggests that there is an elevated rate of suicide within law enforcement. An early national occupational study (Guralnick, 1963) found the suicide ratio of male police to be 1.8 times that of the Caucasian male general population. Suicides accounted for 13.8% of police deaths compared to 3% of deaths in all other occupations, and more officers died as a result of suicide than homicide. Milham (1979) found Washington State male police officers from 1950-1971 to

have a suicide mortality rate higher than normally expected in the general male population. Vena, Violanti, Marshall, and Fiedler (1986) found male officers to have an age-adjusted mortality ratio for suicide of approximately three times that of male municipal workers in the same cohort. Lester (1992) found that 7 of 26 countries for the decade of 1980-1989 had police suicide rates above the general population. Forastiere, Perucci, DiPietro, Miceli, Rapiti, Bargagli, et al (1994) found the suicide ratio among male police officers to be 1.97 times as high as the general male Italian population. Violanti, Vena, and Marshall (1996) found that male police officers had a suicide rate of 8.3 times that of homicide, and 3.1 times that of work accidents. Compared to male municipal workers, male police officers had a 53% increased rate of suicide over homicide, a three-fold rate of suicide over accidents, and a 2.65-fold rate of suicide over homicide and accidents combined. Hartwig and Violanti (1999) found that the frequency of police suicide occurrence in Westphalia, Germany, has increased over the past seven years, particularly in the 21-30 and 51-60 years of age categories. Most of suicides were among male officers (92%). Cantor, Tyman and Slatter (1995) found the high rate of suicide among Australian police attributable to stress, health, and domestic difficulties. Occupational problems were more intense than personal ones. Charbonneau (2000), in a study in Quebec, Canada, found police suicide rates to be almost twice that of the general population. Rates were elevated mostly among young officers (20-39 years of age). Gershon, Lin, and Li (2002) provided recent evidence of job-related problems among police officers related to suicide. Officers had an approximate 4-fold risk of being exposed to traumatic work events, a 3-fold risk of exhibiting PTSD symptoms, a 4-fold risk of alcohol abuse, and a 4-fold risk of aggressive behavior.

An Alternative Method for Detecting Police Suicide Ideation

Despite the high risk of suicide among police officers, methods for accurately identifying officers at risk are limited. Police officers are hesitant to divulge sensitive information to mental health professionals or others for fear that it may compromise their position or safety (Violanti, 2007). It therefore becomes important to detect suicide ideation on a different level in this high suicide risk population. Over the past several years, cognitive and social psychologists have developed methods for measuring the strength of automatic associations that individuals hold between various concepts,

referred to as implicit association tests (IAT; Fazio & Olson, 2003). The suicide IAT was developed by Nock, Park, Finn, Deliberto, Dour and Banaji (2010) and has been used to evaluate the extent to which persons associate suicide as being "good" versus "bad" and "like me" versus "not like me," based on the strength of their identification with death or life. Nock and colleagues (2010) found that identification with death by psychiatric patients was significantly associated with both attempted and completed suicide.

The suicide IAT is a computerized, performance-based reaction time task that requires individuals to classify different stimuli (i.e., words or images appearing in the middle of the computer screen) into concept categories (indicated on the upper left and upper right corners of the screen). In an IAT, concept categories are paired. The speed at which an individual classifies stimuli when the paired categories match an individual's implicit associations versus the speed of classification when the paired categories do not match an individual's implicit associations is compared. Faster response times are interpreted as stronger mental associations between constructs.

Generally two groups of attribute categories are tested with the IAT, including "good" vs. "bad" and "like me" vs. "not like me." These categories yield information about the magnitude to which individuals associate suicide and related life-death concepts with being "good" and "like me." Suicide IAT methods and scoring algorithms have been outlined by Greenwald, Nosek, and Banaji (2003). Results are calculated as D-scores which correspond to small, medium, and large effect sizes. D-score and Cohen's d are related measures. D-Score cut-points, which empirically measure the strength of identification with death or life, were proposed and validated by Greenwald and colleagues (2003) for the suicide IAT. Although there are still questions about the precise processes underlying IAT effects (Fazio, et al 2003), the stability of IAT effects (Blair, 2002) and the relations between implicit and explicit measures of constructs (Brauer & Neiedenthal, 2000), several positive aspects of the IAT that have been well-documented in the literature make it a potentially useful tool for suicide assessment.

Discussion

The police are a healthy and psychologically tested occupational group. In the occupation of policing, officers are hesitant to divulge suicidal thoughts due to police cultural

stigma among peers and job consequences. Police officers may believe that reporting mental health problems or suicidal thoughts will affect their careers in areas of promotion and assignments (Violanti, 2007). Because of this resistance, self-report measures as well as other clinical means are necessary. It thus becomes necessary to determine on an individual level who is contemplating suicide. As Nock and colleagues (2010) point out, the stronger the implicit cognitive association with death, the higher the risk of suicide. Therefore, the IAT may provide a behavioral marker between death/suicide and self that distinguishes suicidal officers from other distressed officers on an individual level, predicts future suicide attempts, and provides superior prediction compared with currently used methods (Nock et al., 2010).

It is the task of further research to determine the possible incongruence of self-reported and implicit measures of suicide among police officers. Additionally, correlations with other known precipitants of police suicide, such as depression, stress, and posttraumatic stress disorder, need to be explored (Violanti, 2004). Verification of the IAT as a useful tool in police suicide prevention needs further inquiry with larger samples. As pointed out by Nock and colleagues (2010) the stimuli used in the IAT focuses mostly on death. They suggest that future versions targeting suicide-related cognitions more narrowly may provide even better prediction and require testing in subsequent studies. Nock, et al (2010) also suggest combining IAT information with other data sources (e.g., biological or historical) to advance the understanding, prediction, and prevention of suicidal behavior.

One other methodological problem unique to the police is their occupational exposure to death. Homicides, auto accidents, suicides, and assaults are common events to officers. It is possible that the frequent exposure to death by police officers in their work may influence their responses on a suicide IAT. Implicit as well as explicit thoughts about life may be counterbalanced by a death exposure-based desensitization process (Henry, 2004; Hartley, et al, 2007; Violanti, 2004).

In summary, implicit testing such as the IAT, along with established proven clinical measures, may provide some usefulness in detecting suicide in police officers. Future research may lead to better police entrance screening assessment measures, improved suicide prediction, and to more effective intervention approaches. Accurate assessment and detection of suicidal thinking in police officers may eventually tell us something more about suicidal behavior within this occupation (Jamison & Baldessarini 1999).

REFERENCES

Blair I.V. (2002). The malleability of automatic stereotypes and prejudice. *Personality and Social Psychology Review, 6,* 242-261.

Brauer M., Wasel W., & Neiedenthal P. (2000). Implicit and explicit components of prejudice. *Review of General Psychology, 4,* 79-101.

Cantor, C.H., Tyman, R., & Slater, P.J. (1995). A historical survey of police in Queensland, Australia, 1843-1992. *Suicide and Life Threatening Behavior, 25*, 499-507.

Charbonneau, F. (2000). Suicide among the police in Quebec. *Population, 55*, 367-378.

Fazio R.H., & Olson M.A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology, 54,* 297-327.

Forastiere, F., Perucci, C.A., DiPietro, A., Miceli, M., Rapiti, E., Bargagli, A., & Borgia, P. (1994). Mortality among urban policemen on Rome. *American.Journal of Industrial Medicine, 26*, 785-798.

Gershon, R.R., Lin, S., & Li, X. (2002). Work stress in aging police officers. *Journal of Occupational and Environmental Medicine, 44*, 160-167.

Greenwald A.G., Nosek B.A., & Banaji M.R. (2003). Understanding and using the implicit association test: 1.An improved scoring algorithm. J*ournal of Personality and Social Psycholog, 85*, 197-216.

Guralnick, L. (1963). Mortality by occupation and cause of death among men 20-64 years of age. *Vital Statistics Special Reports, 53*, Bethesda, Maryland: DHEW.

Hartley, T.A., Violanti, J.M., Fekedulegn, D., Andrew, M.E., & Burchfiel, C.M. (2007). Associations between major life events, traumatic incidents, and depression among Buffalo police officers. *International Journal of Emergency Mental Health, 9,* 25-35.

Hartwig, D. & Violanti, J.M. (1999). Suicide by police officials in North Rhine-Westphalia. An evaluation of 58 suicide between 1992-1998. *Archives of Kriminologie, 204*, 129-142.

Henry, V.E. (2004). *Death work: Police, trauma, and the psychology of survival*. Oxford University Press: Cary, NC.

Jamison, K.R., & Baldessarini, R.J. (1999). Effects of medical intervention on suicidal behavior. *Journal of Clinical Psychiatry, 60,* 4-6.

Lester, D. (1992). Suicide in police officers: a survey of nations. *Police Studies, 15*, 146-148.

Milham, S. (1979). *Occupational mortality in Washington State.* U.S. Dept. of Health, Education, and Welfare, 1-3. Washington, DC: US Government Printing Office.

Nock, M.K., Park, J.M., Finn, C.T., Deliberto, T.L., Dour, H.J., & Banji, M.R. (2010). Measuring the mind: Implicit cognition predicts suicidal behavior. *Psychological Science, 21*, 511-517, DOI: 10.1177/0956797610364762.

Violanti, J.M. (2004). Predictors of police suicide ideation. *Suicide and Life-Threatening Behavior, 4*, 277-283.

Violanti, J.M. (2007) *Police suicide: Epidemic in blue* (2nd Edition). Springfield, Illinois: Charles C. Thomas.

Hostage (Crisis) Negotiation: The Potential Role of Negotiator Personality, Decision-Making Style, Coping Style and Emotional Intelligence on Negotiator Success

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Abstract: *This article explores the potential role of hostage negotiator characteristics and the impact of psychological constructs on negotiator success. It explores the role of Personality, Decision-Making Style, Coping Style, Cognitive Coping Style and Emotion Regulation and Emotional Intelligence within high stress environments and occupations. The findings suggest that certain individual traits and characteristics may play a role in negotiator success, via the mediation of specific styles, which are conducive to effective crisis negotiation skills. It is proposed that these findings have application within the field of hostage/crisis negotiation in the format of guidance regarding the recruitment and selection of hostage negotiators and the identification of potential training needs within individual negotiators in order to maximize their efficacy within the field. In line with this, it is argued that a psychometric tool that assesses these constructs is developed in order to aid the process of hostage negotiation selection. [International Journal of Emergency Mental Health, 2012, 14(1), pp. 41-55].*

Key words: *hostage negotiation; crisis negotiation; personality; decision making; coping style; emotion regulation; emotional intelligence.*

Justification for the use of hostage (crisis) negotiation

Crisis negotiation is "one of law enforcement's most effective tools" (Regini, 2002, p. 1) with empirical and anecdotal evidence demonstrating the successful resolution of tens of thousands of hostage, barricade, attempted suicide and kidnapping cases throughout the world. Such a contention is supported by data from the Hostage Barricade database

System (HOBAS) established by the Crisis Negotiation Unit (CNU) of the FBI, which serves as a database on hostage/crisis incidents through the systematic collection of cases (post incident) from law enforcement agencies across the United States. An analysis of HOBAS data from 2002-2003 indicated that approximately 82% of reported incidents were resolved without death or injury to the subject or the victim(s) (Flood, 2003). A considerable number of case studies and anecdotal reports also attest to the efficacy of crisis negotiation (McMains & Mullins, 2001; Rogan, Hammer & Van Zandt, 1997). However, despite this excellent success rate, the rapidly increasing phenomenon of hostage taking continues to challenge law enforcement professionals worldwide (Call, 1996; McMains & Mullins, 2001; Romano, 1998).

The outcome of failed negotiations has huge implications and can often result in the death of hostages, perpetrators, and in some cases, law enforcement officers. It is therefore essential to not only establish "what works" within hostage or crisis situations in terms of negotiation strategy and protocol, but also to identify what factors influence negotiator success and enable such individuals to perform effectively under immense levels of stress. Identification of key traits, characteristics, and constructs that are possessed by operationally active hostage negotiators is therefore a task that is warranted in order to improve the success rate of negotiations and minimize the loss of life for both hostages and hostage takers.

The Potential Role of Psychological Constructs within Negotiation

While there is a wealth of empirical research focusing on the art of hostage (crisis) negotiation, there is a dearth of literature focusing on the competencies of the negotiator. There is a large body of literature which debates the existence of a "police personality," with substantial evidence for such an entity (Lefkowitz, 1975; Twersky-Glasner, 2005); however, as of yet, there is no such research which establishes whether hostage negotiators exist as a unique characteristically similar group of individuals. The current review aims to introduce a number of potentially salient characteristics, traits, and constructs which may influence the way individuals negotiate and cope with high levels of stress. A number of constructs are proposed that may be unique to police hostage negotiators and form a consistent "hostage negotiator profile" which serves to enable the negotiator to perform and cope under highly stressful situations. The proposed constructs include: *personality & general coping style, decision making style, cognitive coping style and emotion regulation* and *emotional intelligence*. They have been selected on the basis of pre-existing literature which links such constructs to occupational success or academic performance. Research has consistently shown a link between *personality* (Barrick & Mount, 1991; Tett, Jackson & Rothstein, 1991), *decision-making style* (Ivancevich, Szilagyi and Wallace, 1977; Russ, McNeilly & Comer, 2001; Schoemaker & Russo 1993; Thunholme, 2008), *emotion regulation* (Nelis, Quoidback, Hansenne & Mikolajczak, 2011; Quoidbach & Hansenne, 2009), *emotional intelligence* (Bar-On 1997; Goleman 1995; Nowicki & Duke 1992; Shoda, Mischel & Peake 1990; Van Rooy & Viswesvaran, 2004) and *occupational performance*. The majority of this research has been performed on mana-

gerial staff within businesses and organizations but these constructs have not as yet been applied to police or military settings within the UK. The current review introduces each of these constructs and proposes how each might serve to aid negotiator performance or success.

Personality and General Coping Style

Personality has been linked to a variety of occupational factors, including performance, stress, and coping (DeLongis & Holtzman, 2005; Detrick, Chibnall & Luebbert, 2004; Penley & Tomaka, 2002). Personality type is thought to predispose individuals to act and react in particular ways; and personality dimensions have been proposed to act as moderators affecting resiliency and vulnerability in the face of stressful events (Scheier, Carver & Bridges, 2001). Personality is therefore thought to play a key role in stress and coping processes (Lee-Baggley, Preece & DeLongis, 2005) and is linked to the likelihood of experiencing stressful situations (Bolger & Schilling, 1991; Bolger & Zuckerman, 1995), the appraisal of an event as stressful (Gunthert, Cohen & Armeli, 1999), the likelihood of engaging in certain coping strategies (David & Suls, 1999; McCrae & Costa, 1986; O'Brien & DeLongis, 1996; Rim, 1986; Watson & Hubbard, 1996), and the effectiveness or outcomes of these coping strategies (Bolger & Zuckerman, 1995; Gunthert *et al*., 1999). Personality appears to influence the ability of individuals to perform effectively within their role by mediating the way they respond to and cope with stress. This process is likely to be more vital for occupational roles whereby stress is constantly encountered, such as those within the emergency services. Research has recently begun to focus on the role of personality within roles such as police officers, with a view to identifying individuals who are appropriate for the role by utilizing personality psychometrics (Detrick *et al*., 2004; Lau, Hem, Berg, Ekeberg & Torgenson, 2006).

Research examining the role of personality on coping has utilized a variety of personality based typologies or classification systems, and as such is difficult to compare. Despite this, a consistently appearing conceptualization of personality is that of the "Five-Factor Model," which is a broadly based taxonomy of personality dimensions that arguably represent the minimum number of traits needed to describe personality (David & Suls, 1999, p. 276; McCrae & Costa, 1985). The five factor model incorporates the following dimensions: *Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A)* and *Conscientiousness (C)*. Research involving the

role of personality in coping has tended to focus on the role of N and E as these appear to play a more significant role, with research indicating that individuals who score highly on measures of extraversion react more positively to both long and short-term stress conditions, while individuals who score highly on measures of neuroticism react negatively under these same conditions (Ebert, Tucker & Roth, 2002; Kling, Ryff, Love & Essex, 2003; John, 1990). However, further research has also identified the role of the C, A and O dimensions within the stress and coping process by linking each dimension to specific types of coping style and process (David & Suls, 1999; Hooker, Frazier & Monahan, 1994; O'Brien & DeLongis, 1996; Watson & Hubbard, 1996). The five dimensions of personality have been analyzed in relation to their impact on coping, with different dimensions exhibiting different styles and effectiveness in terms of coping responses. These dimensions are discussed individually and in more detail below:

Neuroticism (N)

Those high on N are prone to experience negative emotions, such as depression, anxiety, or anger, and tend to be impulsive and self-conscious (for reviews see McCrae & John, 1992; McCrae & Costa, 1987). N has also been found to be related to the use of coping strategies that are typically related to poorer outcomes (Holahan & Moos, 1987; Maitlin, Wethington & Kessler, 1990; Vitaliano, Mairuro, Russo & Becker, 1987), such as an increase in end-of-day distress (Gunthert et al., 1999), or increased anger and depression on subsequent days (Bolger & Zuckerman, 1995). High N scores have also been found to be correlated with the use of more passive or emotion-focused coping strategies such as escape avoidance, self-blame, wishful thinking and relaxation. Interpersonally antagonistic means of coping, such as hostile reactions, catharsis (venting of negative emotions), confrontative coping (David & Suls, 1999; Gunthert et al., 1999; O'Brien & DeLongis, 1996), or interpersonal withdrawal (O'Brien & DeLongis, 1996) are also associated with high N scores. In line with this, individuals scoring highly on N have typically reported lower levels of problem-focused coping compared to those scoring lower on N (David & Suls, 1999; Endler & Parker, 1990; Gunthert et al., 1999; Hooker et al., 1994; O'Brien & DeLongis, 1996; Rim, 1986). Persons scoring higher in N also tend to appraise stressful situations as threats rather than challenges (Costa & McCrae, 1985; Gallagher, 1990).

Extraversion (E)

Extraverts have a propensity to experience positive emotions and tend to be sociable, warm, cheerful, energetic, and assertive (McCrae, 1992; McCrae & Costa, 1987). Research suggests that those scoring higher on E engage in higher levels of problem-focused coping (Hooker et al., 1994; McCrae & Costa, 1986; Rim, 1986) and employ less maladaptive forms of emotion-focused coping such as self-blame, wishful thinking and avoidance (Hooker et al., 1994) than those with lower E scores. In line with this, individuals higher on E tend to employ more adaptive forms of emotion-focused coping (Hooker et al., 1994; McCrae & Costa, 1986), such as support seeking (Amirkhan, Risinger & Swickert, 1995; David and Suls, 1999; Hooker et al., 1994; Watson & Hubbard, 1996), positive thinking or reinterpretation (McCrae & Costa, 1986; Watson & Hubbard, 1996) and substitution and restraint (McCrae & Costa, 1986). Persons scoring higher in E are also more likely to take action (McCrae & Costa, 1986; Parkes, 1986) and to interpret stressful situations as challenges rather than threats (Costa & McCrae, 1985; Gallagher, 1990).

Openness (O)

Those high on O tend to be creative, imaginative, curious, psychologically minded, and flexible in their thinking (Costa & McCrae, 1992). They are likely to experience a diversity of emotions, to have broad interests and a preference for variety, and to hold unconventional values (McCrae, 1992; McCrae & Costa, 1987). Evidence for the role of O in coping is less substantial but suggests that those higher on O are more likely to employ humor (McCrae & Costa, 1986), to engage in positive reappraisal (O'Brien & DeLongis, 1996; Watson & Hubbard, 1996), and to think about or plan their coping (Watson & Hubbard, 1996). Some studies, however, have failed to identify a significant relationship between O and coping (Hooker et al., 1994), and others have found it to be only a weak predictor of coping (McCrae & Costa, 1986; Vickers, Kolar & Hervig, 1989).

Agreeableness (A)

Those high on A tend to be altruistic, acquiescent, trusting, and helpful (McCrae, 1992; McCrae & Costa, 1987). Individuals higher on A tend to cope in ways that engage or protect social relationships such as seeking support (Hooker et al., 1994; O'Brien & DeLongis, 1996; Vickers et al., 1989) and avoiding confrontation (O'Brien & DeLongis, 1996),

compared to those with lower A scores. High A scorers appear less likely to employ emotion-focused coping strategies such as self-blame, avoidance, wishful thinking (Hooker *et al.*, 1994) or disengagement (Watson & Hubbard, 1996) than those low on A. The findings relating to the impact of A on coping tend to be modest in strength (Hooker *et al.*, 1994; Vickers *et al.*, 1989).

Conscientiousness (C)

Those high on C tend to be organized, reliable, hardworking, determined, and self-disciplined (McCrae, 1992; McCrae & Costa, 1987). Limited research has been performed examining the role of C in coping; however, some research has found C to be a strong predictor of coping styles (Watson & Hubbard, 1996; Vickers *et al.*, 1989). C has been found to be related to the use of more active, problem-focused strategies (Hooker *et al.*, 1994) such as planning, problem-solving, positive reappraisal, and suppression of competing activities (Watson & Hubbard, 1996). In line with this, those high in C are less likely to engage in avoidant, emotion-focused coping strategies such as self-blame (Hooker *et al.*, 1994; O'Brien & DeLongis, 1996) or distraction/disengagement (Watson & Hubbard, 1996) compared to those low in C.

The way that personality type translates into coping is unclear. However, research indicates that personality type impacts on coping via moderating the style of coping that an individual adopts (Lee-Baggley, Preece & DeLongis, 2005; Scheier, Carver & Bridges, 2001). The concept of how individuals cope with traumatic or stressful events can be dichotomized into adaptive and maladaptive coping styles. Two primary conceptualizations of adaptive and maladaptive coping have emerged in the literature. The first conceptualizes coping strategies as either *problem-focused* or *emotion-focused* and the second conceptualizes coping strategies as *approach-focused* or *avoidant-focused* (Littleton, Horsley, John & Nelson, 2007). The first conceptualization appears consistently throughout the literature and will therefore be focused on for the purposes of this review. Problem-focused (PF) coping refers to responses that are geared toward directly altering or resolving the stressful situation, while emotion-focused coping refers to efforts to manage and regulate one's emotional reactions to the stressful situation (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986). In general, problem-focused coping strategies are considered to be more functional than emotion-focused coping strategies (Thoits, 1995), and some have conceptualized problem-focused cop-

ing as more adaptive than emotion-focused strategies because they focus on actively addressing the problem (Masel, Terry & Gribble, 1996). Research indicates that certain personality types are more likely to display certain coping styles and strategies (Byrne, 1964; Carver, Scheier & Weintraub, 1989; Suls, David & Harvey, 1996), and this may provide an explanation as to why some personality types cope more effectively with stress and therefore perform well under high stress situations.

The investigation of personality within research focusing specifically on police personnel is limited. However, there is some research exploring how personality impacts on experiences of stress, coping, and performance of both operationally active police officers and police recruits in Norway (Lau *et al.*, 2006) and New Zealand (Black, 2000), respectively. Lau and colleagues (2006) found that the entrepreneur and hedonist personality types (characterized by a combination of high values on Extraversion and low values on Neuroticism) reported lower values on perceived stress compared to others, whereas those classified as insecure and brooder types (characterized by low Extraversion scores and high Neuroticism scores) reported higher levels of perceived stress. With respect to personality and police performance, Black (2000) found significant univariate correlations between the Neuroticism, Extraversion and Conscientiousness domains and a global performance measure that included academic, physical, firearms, driving, public speaking and computer skills evaluations. Extraversion and Conscientiousness tended to correlate positively with global performance measures, whereas, in line with previous research in this arena, Neuroticism tended to correlate negatively with performance measures. Black also concluded that the NEO PI-R scores utilized within his study provided good predictive validity with respect to police academy performance. This finding has also been replicated by Detrick, Chibnall and Luebbert (2004) with a sample of police academy recruits in the United States.

The limited research within this domain suggests an inadequate understanding of the role of both personality and coping style within highly stressful occupations, including that of hostage/crisis negotiators. Further exploration of the role of these constructs within such a population would therefore be advantageous in order to implement effective selection criteria and identification of potential training needs for such roles.

Decision Making

Decision making is a key role within the negotiator's remit. Decision making style has been extensively explored in relation to business settings and has been conceptualized in a number of different ways. Some researchers posit that decision making style is defined by the amount of information gathered and the number of alternatives considered (Driver, Brosseau & Hunsaker, 1990 cited in Scott & Bruce, 1995), whereas others suggest that it is characterized by the way individuals make sense of the data they gather (Hunt, Krzytofiak, Meindl & Yousry, 1989; McKenney & Keen, 1974; Mitroff, 1983 cited in Scott & Bruce, 1995). Earlier models tended to focus on the concept of *cognitive style*, as opposed to *decision-making style*. The term cognitive style in decision making often referred to individual "thinking practices" central to the understanding of decision processes (Hunt *et al*., 1989). In line with this, Mitroff (1983), for example, proposed that cognitive style is the manner in which individuals take in data from the outside world and make decisions based on that data. Within this conceptualization, data collection can exist on two dimensions, whereby individuals are either sensing types (*data sensitive*), or intuitive types who rely on a holistic approach (*data-filterers*); and decision making can exist on two dimensions, whereby individuals are either logical thinking types, or feeling types. Researchers have adapted and/or built upon early models, with Hunt *and colleagues* (1989), for example, reducing the number of styles to two – *analytics* and *intuitive* – based on evidence suggesting that data gathering and decision making dimensions are not independent (e.g. Behling, Gifford & Tolliver, 1980). Driver (1979) and Driver, Brousseau & Hunsaker (1990) adopted a different approach, proposing that decision making style is a learned habit and that the key differences among styles involve the amount of information considered during a decision and the number of alternatives identified when reaching decisions.

Decision-making style is thought potentially to be related to underlying cognitive styles, or, what has been described by Messick (1984, p. 61), as "the characteristic self-consistencies in information processing that develop in congenial ways around underlying personality trends." In this sense, different interpretations of the same decision issue can be attributed to individual differences in processing capacities, combined with factors such as personality and perception. Decision-making style is often conceptualized as an individual's preferred mode of perceiving and responding to decision-making behaviors (Harren, 1979). It is suggested that an individual's decision-making style may be linked in some way to more stable or consistent dimensions of personality, mediated via cognitive style or the way information is processed. Following on from this concept, Curry (1983) proposed a model in which individual differences were represented as layers of an onion. Within this conceptualization, the central part of the onion represents the more fundamental and stable aspects of individual difference, such as personality and cognitive style, with the more malleable aspects, including cognitive strategies, learning styles, strategies, and preferences forming the layers further out from the center. Within this model, decision making style is one of the outer layers, a surface manifestation of more deep seated personality constructs (Spicer & Sadler-Smith, 2005).

Scott and Bruce (1995) differentiate themselves from previous researchers in this arena who have made links between fixed personality traits and decision making style. They describe decision-making style as "the learned, habitual response pattern exhibited by individuals when confronted with decision situations" (Scott and Bruce, 1995, p. 820). As such, they intimate that decision making style is not a personality trait, but a habit-based propensity to react in a certain way in a specific decision context. In line with this concept, the more recent decision-making style literature generally acknowledges that situations can affect the choice of decision-making style utilized.

Scott and Bruce (1995) developed a classification system in response to an identification of a lack of psychometrically sound instruments to measure decision-making style specifically. They built upon the work of Driver (1979) and Driver and colleagues. (1990) to formulate a classification system that identifies five unique and distinct decision-making styles. These styles consist of:

- *Rational*. Logical and structured approaches to decision making (e.g "My decision making requires careful thought"). The rational style is deliberate, analytical and logical. Rational decision makers assess the long term effects of their decisions and have strong fact-based orientation to decision making.

- *Intuitive*. Reliance upon hunches, feelings, and impressions (e.g. "I generally make decisions that feel right to me"). Decisions made by the intuitive style are feeling-orientated and based on an internal

ordering of the information leading to "hunches." Intuitive decisions are made relatively quickly, with limited information, and often changed if the intuition was in error.

- *Dependent.* Reliance upon the direction and support of others (e.g. "I use the advice of other people in making important decisions"). A dependent style of decision making is characterized by the use of advice and support from others in making decisions.

- *Avoidant.* Postponing or avoiding making decisions (e.g. "I postpone decision making whenever possible"). The avoidant style is characterized by delay and denial, the opposite of decisiveness.

- *Spontaneous.* Impulsive and prone to making "snap" or "spur of the moment" decisions (e.g. "I often make decisions on the spur of the moment"). The spontaneous style is characterized by a strong sense of immediacy and an interest in getting through the decision making process as quickly as possible.

The general decision-making style questionnaire (GDMS) developed by Scott and Bruce measures individuals' decision making preferences in line with these five styles. Research has identified that these styles are not mutually exclusive (Scott & Bruce, 1995; Thunholm, 2004), with individuals utilizing more than one style and consistently displaying a primary and secondary decision-making style (Driver *et al.* 1990). In addition to this, research has demonstrated that certain decision-making styles are more effective within occupational settings than others, and it is therefore proposed that certain decision-making styles are likely to be displayed by hostage negotiators, much in the same way that effective managers tend to display certain types of decision-making style. The following section identifies literature that demonstrates the link between decision-making style and performance in occupational roles and makes suggestions for the application of these findings to hostage negotiators.

An understanding of decision-making style allows us to explain why individuals who are faced with apparently identical situations use such different decision processes (Nutt, 1990). Although decision-making style has not been directly linked to performance in highly stressful occupational roles such as those in the emergency services, research has linked decision-making style to performance in the business world – with research indicating that decision making is key within management roles and leadership (Barnard,

1938; Simon, 1947, 1960; Taylor, 1965). Decision making has been consistently linked with performance in this context, with Ivancevich, Szilagyi and Wallace (1977, p. 382) stating that "decision making is the fundamental activity influencing performance." The quality of managers' decisions is well established as a major factor in determining performance within business settings. However, more recently researchers have also identified that the way managers arrive at their decision (i.e. their *decision-making style*) is also thought to affect performance. Russ, McNeilly and Comer (2001) found that avoidant decision making was significantly linked to performance. Postponing decisions as long as possible produced lower assessments of performance; whereas rational decision making was positively correlated with assessment of performance. The more rational (careful, thorough, and logical) the manager perceived his/her decision making to be, the higher s/he was rated in terms of performance.

The decisions made by hostage/crisis negotiators clearly have important and serious consequences and decisions may have to be made quickly under a significant amount of pressure. It is likely, therefore, that decision-making style is also linked to performance in negotiators; research examining this as yet neglected aspect within the negotiation literature would be advantageous. The stress experienced by negotiators specifically has yet to be empirically validated, although anecdotal reports indicate that negotiators encounter stressful situations as a result of their negotiator role. More recently, decision-making style has been linked to individual stress responses and research indicates that individuals who utilize some styles are more likely to respond negatively to stress and exhibit higher stress responses in certain situations (Thunholme, 2008). Research demonstrated that the avoidant decision-making style correlated significantly with higher levels of cortisol release during test sessions, indicating that individuals utilizing this style experienced a higher level of stress when asked to make decisions under test conditions (Thunholme, 2008). This finding has implications for individuals working within highly stressful situations, as it implies that individuals with certain decision making styles may cope more effectively within such situations as a mechanism of their cognitive style mediating bodily stress functions. While there is no current empirical research which details the levels of stress experienced by hostage negotiators, the nature of the role is likely to dictate a certain level of stress in line with the situational dynamics encountered when dealing with hostage or crisis situations. The relationship between cognitive decision making and mediation of

stress-related physiological functions is therefore one that equally deserves further academic exploration and may have potential application to the role of hostage negotiators and more specifically the management of their stress levels.

Cognitive Coping Style & Emotion Regulation

As previously discussed, the concept of coping style can be dichotomised into 1) problem-focused coping, which comprises all coping strategies directly addressing the stressor; and 2) emotion-focused coping, which includes the coping strategies aimed at regulating the emotions associated with the stressor (Compas, Orosan & Grant, 1993). Researchers have identified that this dichotomy is a simplistic one and fails to address further dichotomies within coping functions (Garnefski, Kaaij & Spinhoven, 2001; Holahan, Moss & Schaeffer, 1996). It is now widely accepted that the problem/emotion focused dichotomy is not the only dimension by which coping strategies can be classified (Garnefski, Kraaij & Spinhoven, 2001). There is another dimension that cuts across the boundaries of this division in the form of cognitive (what you think) versus behavioral (*what you do*) strategies (Holahan, Moss & Schaeffer, 1996). An illustration of these contrasting strategies can be shown by comparing the concept of 'making plans' - a form of cognitive problem-focused coping, with the concept of 'taking immediate action' - a form of behavioral problem-focused coping. The majority of coping instruments assess a combination of both behavioral and cognitive coping strategies. However, research has highlighted the specific importance of cognitive coping strategies as a function of coping via the regulation of emotions. For example, research has demonstrated that cognitive coping strategies alone are predictive of a considerable amount of the variance in scores of depression, anxiety, and suicidality (Garnefski *et al.*, 2001a; Garnefski *et al*., 2001b; Garnefski, Legerstee, Kraaij, Van den Kommer & Teerds, 2002c), indicating that cognitive coping strategies are deserving of an individual stage within the coping research arena. These findings have resulted in the development of new coping instruments that assess cognitive coping strategies exclusively and separate them from 'behavioral' coping strategies (e.g. The Cognitive Emotion Regulation Questionnaire – CERQ; Garnefski, Kraaij & Spinhoven, 2002b).

Cognitive coping strategies are defined as strategies for cognitive emotion regulation, i.e., regulating in a cognitive way the emotional responses to events causing the indi-

vidual emotional aggravation (Thompson, 1991). In line with this definition, the term *cognitive coping* is often used interchangeably with the term *cognitive emotion regulation* and it is thought that cognitions play a role in coping with stressful or threatening life events by managing or regulating emotions or feelings. The way that we regulate our emotions is thought to impact on human functioning; clinical psychological literature has identified well-established links between certain cognitive coping strategies and symptoms of psychopathology, including depression, anxiety, and suicidality (Allan & Gilbert, 1995; Anderson, Miller, Riger & Sedikides, 1994; Carver, Scheier & Weintraub, 1989; Compas, Connor-Smith, Saltzman, Harding Thomsen & Wadsworth, 2001; Endler & Parker, 1990; Folkman & Lazarus, 1988; Nolen-Hoeksema, Parker & Larson, 1994; Spirito, Stark & Williams, 1988; Sullivan, Bishop and Pivik, 1995; Tennen & Affleck, 1990; Thoits, 1995). The CERQ (Garnefski *et al.*, 2002) identifies nine specific cognitive coping strategies that have been consistently linked to psychopathology and distinguishes between:

- *Self-blame*, referring to thoughts of blaming your self for what you have experienced (Anderson *et al*., 1994);

- *Acceptance,* referring to thoughts of resigning to what has happened (Carver *et al.*, 1989);

- *Rumination*, referring to thinking all the time about the feelings and thoughts associated with the nega tive event (Nolen-Hoeksema, Parker & Larson, 1994);

- *Positive Refocusing*, which refers to thinking of other, pleasant matters instead of the actual event (Endler & Parker, 1990);

- *Refocus on Planning*, or thinking about what steps to take in order to deal with the event (Carver *et al.*, 1989; Folkman & Lazarus, 1988);

- *Positive Reappraisal*, or thinking of attaching a positive meaning to the event in terms of personal growth (Carver et al., 1989; Spirito *et al.*, 1988);

- *Putting into Perspective*, or thoughts of playing down the seriousness of the event when compared to other events (Allan & Gilbert, 1995);

- *Catastrophizing*, referring to explicitly emphasizing the terror of the experience (Sullivan *et al*., 1995); and

- *Other-blame*, referring to thoughts of putting the blame for what you have experienced on others (Tennen & Affleck, 1990).

Empirical research with the CERQ shows that three of these cognitive coping strategies are especially related to reporting symptoms of psychopathology: *Rumination, Catastrophizing* and *Self-blame*. These strategies, along with *Other-blame*, have been identified as non-adaptive types of cognitive coping; whereas, the other 5 styles (*Positive refocusing, Positive reappraisal, Putting into perspective, Refocus on planning* and *Acceptance*) have been identified as more adaptive styles, with some even being suggested to form a 'protective' effect from other cognitive coping strategies, such as *Positive reappraisal* and *Positive refocusing* (Garnefski, Boon, & Kraaij, 2003; Garnefski, Kraaij & Spinhoven, 2001a; Garnefski, Kraaij & Spinhoven, 2001b; Garnefski, Legerstee, Kraaij, van den Kommer & Teerds, 2002c; Garnefski, Teerds, Kraaij, Legerstee & van den Kommer, 2003; Garnefski, van den Kommer, Kraaij, Teerds, Legerstee & Onstein, 2002a; Kraaij, Garnefski & van Gerwen, 2003; Kraaij *et al.*, 2003; Kraaij, Pruymboom & Garnefski, 2002).

Emotion regulation and the use of cognitive coping strategies appears to be particularly important when responding to stressful or threatening events. As such, they are likely to impact an individual's ability to cope with consistently stressful circumstances that may arise within certain occupations, such as that of the hostage negotiator. The need to identify the role of both emotion regulation and cognitive coping within stressful situations is therefore proposed as requiring further research attention.

Emotional Intelligence

Emotional Intelligence (EI) is a relatively new and growing area of research that is gaining momentum (Davies, Stankov & Roberts, 1998; Goleman, 1995; Mayer, Caruso & Salovey, 1999). It is difficult to provide an operational definition of EI that is accepted by all, as it is an area of research that is constantly evolving and expanding. The concept of EI is typically credited to Salovey and Mayer (1990) who coined the term *emotional intelligence*; but Thorndike (1920) first proposed the idea of social intelligence that some consider akin to EI (see Mayer & Salovey, 1997). Throughout the literature, EI has been conceptualized in a number of different ways and described using a variety of terminology; EI has been referred to as *emotional literacy,* the *emotional quotient,*

personal intelligence, social intelligence, and *interpersonal intelligence* (Dulewicz & Higgs, 2000). This disparity in terminology provides an explanation for the lack of agreement in terms of a clearly defined definition for EI. This varied understanding of EI can be demonstrated by a comparison of EI, as defined by two of the leading proponents of the EI arena. For example, Salovey and Mayer (1990, p. 189) define EI as "the ability to monitor one's own and other's emotions, to discriminate among them and to use the information to guide one's thinking and actions," whereas Bar-On (1997, p. 16) defines EI as "an array of non-cognitive capabilities, competencies and skills that influence one's ability to succeed in coping with environmental demands and pressures." As such, EI is defined in line with the individual researcher's beliefs and understanding of the construct.

Probably the most widely accepted model of EI is that of Salovey & Mayer (1990) who divide EI into four dimensions and propose that these dimensions exist sequentially (Mayer, Salovey, Caruso, & Sitarenios, 2001). These four dimensions can be summarized as: The *perception of emotion,* the *integration and assimilation of emotion, knowledge about emotions,* and *management of emotions* (George, 2000; Mayer, Salovey & Caruso, 1999). The first stage refers to the accuracy with which a person can identify emotions in themselves and others; the second refers to the process whereby people use or assimilate emotions to facilitate thought (i.e. the use of emotions to guide their thinking); the third refers to an individual's understanding of how their emotions change; and the final stage refers to the management of one's own mood and emotions along with the emotions of others.

The concept of EI has been linked to several areas of psychological science, including the neuroscience of emotion, self-regulation theory, studies of metacognition, and the search for human cognitive abilities beyond "traditional" academic intelligence (Zeidner, Matthews & Roberts, 2004). EI has been explored in relation to its role within every-day life transactions, and researchers have claimed that it is an important element within a variety of these transactions. For example, it has been claimed that EI is an important factor in determining both life success and psychological well-being (Bar-On, 2001; Goleman, 1995) and the success of intimate relationships and marriage (Fitness, 2001). In line with this, there is a wealth of psychological research focusing on the role of EI in occupational settings, with respect to both work-place performance/success and academic performance (Nowicki & Duke, 1992; Shoda, Mischel & Peake, 1990;

Van Rooy & Viswesvaran, 2004). Some researchers have even broken with convention by proposing that EI is a more important predictor of work-place performance/success than IQ (Bar-On, 1997; Goleman, 1995). Business and occupational psychology literature echoes the thoughts of Bar-On, with Cooper & Sawaf (1997, p. xxvii), for example, proposing dramatically that "If the driving force of intelligence in twentieth century business has been IQ, then…in the dawning twenty-first century it will be EQ". Bar-On's thoughts are also supported empirically by Dulewicz & Higgs (1998) who found that EI accounted for 36% of the total variance in organizational achievement whereas IQ accounted for 27%, suggesting that EI contributes slightly more to career advancement. Cooper and Sawaf's statement may, therefore, be a correct observation of the contribution of EI to business within the 21st century.

EI has been consistently and empirically linked to both occupational performance and success. Weisinger (1998) suggests that there is a direct link between EI and success at work. Other researchers have found EI to have good predictive validity in work place settings (Bachman, Stein, Campbell & Sitarenios, 2000; Bar-On, 1997; Dulewicz & Higgs, 2000; Janovics & Christiansen, 2001; Van Rooy & Viswesvaran, 2004). Van Rooy and Viswesvaran (2004), for example, summarized the empirical literature within this field via a meta analytic review, comparing EI with performance, and concluded that EI should be considered as a valuable predictor of performance, with the overall predictive validity holding fairly constant across a variety of performance domains (including work, academic and life). The authors also concluded that the correlation between EI and performance ($p = 0.23$) is considerably higher than other methods of selection that are currently used (e.g. letters of reference) within recruitment procedures, and as such indicated that EI is in fact an effective and valuable predictive measure of performance within an occupational setting. Despite these findings, research supporting the role of EI within work-based performance is varied, with some researchers finding the opposite effect, whereby EI is negatively linked to performance in the workplace (e.g. Fox & Spector, 2000; Slaski, 2001). It appears, therefore, that EI is a construct that still requires much attention within the empirical arena in order to substantially identify the link between EI and performance.

More specifically, the construct of EI has been linked to the experience of occupational stress. Research indicates that EI may play a positive mediating role in individuals'

experience of work-related stress (Bar-On, 1997; Bar-On, Brown, Kirkcaldy & Thome, 2000; Ciarrochi *et al.*, 2002; Nikolaou & Tsaousis, 2002; Slaski & Cartwright, 2002). For example, Nikolaou and Tsaousis (2002) found that EI was negatively correlated with stress at work, indicating that high scorers in overall EI suffered less stress related to occupational environment. Similarly, Slaski and Cartwright (2002) found that managers high in EI suffered less subjective stress, had better physical and psychological well-being, and demonstrated higher-in-role job performance. Research also indicates that EI may influence performance of individuals within specific occupational roles. Bar-On *and colleagues* (2000) investigated the differences in EI between two distinct occupational groups, both of which suffered high levels of occupational stress: Police officers and paraprofessional personnel in mental health and child care professions. Bar-On *et al.* (2000) found that police officers scored significantly higher than either of the care worker practitioner groups on most of the primary measures of EI, suggesting that the ability of police officers to be more aware of themselves and of others makes them more adaptable to stressful events and equips them with more efficient/effective coping strategies (Bar-On *et al.*, 2000).

These findings have implications for the work-place and suggest that the role of EI within occupational settings that involve exposure to highly stressful environmental conditions requires further empirical attention. It would therefore be advantageous to explore the role of EI in police officers who deal with hostage/crisis situations, an occupational role that undoubtedly involves high stress conditions and emotive circumstances. Such findings would again prove to be beneficial in terms of selection of new negotiators and identification of potential training needs for existing negotiators.

Conclusions & Future Directions

It is clear from this review that there is much about hostage/crisis negotiation that is still unknown. While the behavior of hostage taking and tactical resolution of such incidents itself has existed historically for centuries, the hostage scenario and the way crisis situations are resolved is constantly evolving. Hostage negotiators are privy to a large amount of training and, as such, are constantly expanding their "toolboxes" with new techniques and strategies. However, what has not been considered in detail up to this point, is the role of individual characteristics and psychological constructs that may naturally equip certain individuals to per-

form more effectively within high stress jobs such as hostage negotiation. Effective identification of these constructs could enable resources to be utilized more effectively by selecting individuals who are more suited to the role. It may also help to identify certain malleable traits or constructs that may be susceptible to development or training in order to increase the potential and performance of individual hostage negotiators.

This review identifies a number of psychological constructs which could potentially play a role in the process of hostage negotiation, including personality and general coping style, decision-making style, cognitive coping style and emotion regulation and emotional intelligence. These constructs have been discussed with reference to the applicability of pre-existing research identifying the role of these constructs in occupational and business settings to law enforcement settings, specifically hostage negotiation. While some of the constructs have been investigated within police settings (i.e. personality; Black, 2000; Lau *et al.*, 2006), the majority of these constructs have yet to be applied to such settings. The current review has therefore identified the potential need for empirical research to explore whether these constructs play a role in police settings and, more specifically, in hostage negotiator performance.

The authors propose the need for quantitative empirical research to explore the potential role of the psychological constructs discussed above within UK-based police hostage negotiators. The aim of such research will to be to identify the skills, characteristics, and traits required by police hostage negotiators in order to perform effectively within their role. This information can then be used to provide support for both the appropriate selection of new hostage/crisis negotiators and identification of the potential training needs of existing operationally active police hostage negotiators internationally. The development of a psychometric tool to assess individual negotiator scores on a variety of psychological constructs is also a potential area for further research within the negotiator arena which would enable more effective selection of hostage negotiators who are suited to the role.

REFERENCES

Allan, S., & Gilbert, P. (1995). A social comparison scale: Psychometric properties and relationship to psychopathology. *Personality and Individual Differences, 19*, 293-299.

Amirkhan, J., Risinger, R. & Swickert, R. (1995). Extraver-sion: A "hidden" personality factor in coping. *Journal of Personality, 63*, 189-212.

Anderson, C., Miller, R., Riger, A., Dill, J. & Sedikides, C. (1994). Behavioral and characterological styles as predictors of depression and loneliness: Review, refinement, and test. *Journal of Personality and Social Psychology, 66*, 549-558.

Bachman, J., Stein, S., Campbell, K. & Sitarenios, G. (2000). Emotional intelligence in the collection of debt. *International Journal of Selection and Assessment, 8,* 176-182.

Bar-On, R. (1997). *Bar-On Emotional Quotient Inventory: Technical Manual*. Toronto: Mulithealth Systems.

Bar-On, R. (2001). Emotional intelligence and self-actualization. Cited in Nikolaou, I. & Tsaousis, I. (2002) Emotional intelligence in the workplace: Exploring its effects on occupational stress and organizational commitment. *The International Journal of Organizational Analysis, 10* (4), 327-342.

Bar-On, R., Brown, J., Kirkcaldy, B. & Thome, E. (2000). Emotional expression and implications for occupational stress; an application of the Emotional Quotient Inventory (EQ-i). *Personality and Individual Differences, 28*, 1107-118.

Barnard, C. (1938). *The Functions of the Executive*. Cambridge, MA: Harvard University Press.

Barrick, M., & Mount, M. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44*, 1- 26.

Behling, O., Gifford, W. & Tolliver, J. (1980). Effects of grouping information on decision making under risk. *Decision Sciences, 11*, 272-283.

Black, J. (2000). Personality testing and police selection: Utility of the "Big Five". *New Zealand Journal of Psychology, 29*, 2-9.

Bolger, N. & Schilling, E. (1991). Personality and the problems of everyday life: The role of neuroticism in the exposure and reactivity to daily stressors. *Journal of Personality, 59,* 355-386.

Bolger, N. & Zuckerman, A. (1995). A framework for studying personality in the stress process. *Journal of Personality and Social Psychology, 69*, 890-902.

Byrne, D. (1964). Repression-sensitization as a dimension of personality. Cited in David, J. & Suls, J. (1999) Coping efforts in daily life: Role of big five traits and problem

appraisals. *Journal of Personality 67*, (2), 265-294.

Call, J. (1996). The hostage triad: Takers, victims and negotiators. Cited in Van Hasselt, V., Baker., M., Romano, S., Noesner, G. & Smith, S. (2005). Development and validation of a role-play test for assessing crisis (hostage) negotiation skills. *Criminal Justice and Behavior, 32,* 345-361.

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

Ciarrochi, J., Deane, F. & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and Individual Differences, 32*, 197-209.

Compas, B.E., Connor-Smith, J.K., Saltzman, H., Harding Thomsen, A. & Wadsworth, M.E. (2001). Coping with stress during Childhood and Adolescence: Problems, progress and potential in theory and research. *Psychological Bulletin, 127*, 87-127.

Compas, B., Orosan, P. & Grant, K. (1993). Adolescent stress and coping: Implications for psychopathology during adolescence. *Journal of Adolescence, 16*, 331-349.

Cooper, R. & Sawaf, A. (1997). *Executive EQ: Emotional Intelligence in leaders and organizations*. New York: Grosset/Putnam.

Curry, L. (1983). An organisation of learning styles theory and constructs. Cited in Spicer, D. & Sadler-Smith, E. (2005). An examination of the General Decision Making Style questionnaire in two UK samples. *Journal of Managerial Psychology, 20* (2), 137-149.

David, J. & Suls, J. (1999). Coping efforts in daily life: Role of big five traits and problem appraisals. *Journal of Personality, 67* (2), 265-294.

Davies, M., Stankov, L. & Roberts, R. (1998). Emotional intelligence: In search of an illusive construct. *Journal of Personality and Social Psychology, 75*, 989-1015.

DeLongis, A. & Holtzman, S. (2005). Coping in context: The role of stress, social support and personality in coping. *Journal of Personality, 73* (6) 1633-1656.

Detrick, P., Chibnall, J. & Luebbert, M. (2004). The revised NEO personality inventory as a predictor of police academy performance. *Criminal Justice and Behavior, 31,* 676-694.

Driver, M. (1979) 'Individual decision making and creativity'. Cited in Russ, F., McNeilly, K. & Comer, J. (2001). Leadership, decision making and performance of sales managers: A multi-level approach. *Journal of Personal Selling and Sales Management, XVI* (3), 1-15.

Driver, M., Brousseau, K. & Hunsaker, P. (1990). *The Dynamic Decision Maker*. New York: Harper & Row.

Dulewicz, V. & Higgs, M. (1998). Emotional intelligence: Can it be measured reliably and validly using competency data? *Competency, 6* (1), 1-15.

Dulewicz, V. & Higgs, M. (2000). Emotional intelligence: A review and evaluation study. *Journal of Managerial Psychology, 15*, 341-372.

Ebert, S., Tucker, D. & Roth, D. (2002). Psychological resistance factors as predictors of general health status and physical symptom reporting. *Psychology, Health and Medicine, 7*, 363-375.

Endler, N. & Parker, J. (1990). Multidimensional assessment of coping: A critical evaluation. J*ournal of Personality and Social Psychology, 58*, 844-854.

Fitness, J. (2001). Emotional intelligence and intimate relationships. Cited in Nikolaou, I. & Tsaousis, I. (2002). Emotional intelligence in the workplace: Exploring its effects on occupational stress and organizational commitment. *The International Journal of Organizational Analysis, 10* (4), 327-342.

Flood, J. (2003). *Hostage barricade database (HOBAS)*. Quantico, VA: FBI Academy.

Folkman, S., & Lazarus, R. (1988). *Manual of the Ways of Coping Questionnaire*. Palo Alto: Consulting Psychologists Press.

Folkman, S., Lazarus,R., Dunkel-Schetter, C., DeLongis, A. & Gruen, R. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping and encounter outcomes. *Journal of Personality and Social Psychology, 50*, 992-1003.

Fox, S. & Spector, P. (2000). Relations of emotional intelligence, practical intelligence, general intelligence, and trait affectivity with interview outcomes: It's not all just 'G'. *Journal of Organizational Behavior, 21*, 203-220.

Gallagher, D. (1990). Extraversion, neuroticism and appraisal of stressful academic events. *Personality and Individual Differences, 11*, 1053–1057.

Garnefski, N., Kraaij, V. & Spinhoven, Ph. (2001a). Negative life events, cognitive emotion regulation and depression.

Personality and Individual Differences, 30, 1311-1327.

Garnefski, N., Kraaij, V. & Spinhoven, Ph. (2001b). The relationship between cognitive coping strategies and symptoms of depression, anxiety and suicidality (De relatie tussen cognitieve copingstrategieën en symptomen van depressie, angst en suïcidaliteit). *Gedrag en Gezondheid, 29*, 166-176.

Garnefski, N., Kraaij, V. & Spinhoven, Ph. (2002b). Manual for the use of the Cognitive Emotion Regulation Questionnaire: Dutch Version (*Handleiding voor het gebruik van de Cognitive Emotion Regulation Questionnaire*). Leiderdorp, The Netherlands: DATEC.

Garnefski, N., van den Kommer, T., Kraaij, V., Teerds, J., Legerstee, J., & Onstein, E. (2002a). The relationship between cognitive emotion regulation strategies and emotional problems. *European Journal of Personality, 16,* 403-420.

Garnefski, N., Legerstee, J., Kraaij, V., Van den Kommer, T., & Teerds, J. (2002c). Cognitive coping strategies and symptoms of depression and anxiety: A comparison between adolescents and adults. *Journal of Adolescence, 25,* 603-611.

Garnefski,N., Boon, S. & Kraaij, V. (2003). Relationships Between Cognitive Strategies of Adolescents and Depressive Symptomatology Across Different Types of Life Event. J*ournal of Youth and Adolescence, 32* (6), 401-408.

Garnefski, N., Teerds, J. , Kraaij, V., Legerstee, J. & Van den Kommer, T. (2003). Cognitive emotion regulation strategies and depressive symptoms: Differences between males and females. *Personality and Individual Differences, 25*, 603-611.

George, J. (2000). Emotions and leadership: The role of emotional intelligence. *Human Relations, 53*, 1027-1055.

Goleman, D. (1995). *Emotional Intelligence: Why it can matter more than IQ.* New York: Bantam.

Gunthert, K., Cohen, L. & Armeli, S. (1999). The role of neuroticism in daily stress and coping. *Journal of Personality and Social Psychology, 77*, 1087-1100.

Harren, V. (1979). A model of career decision making for college students. *Journal of Vocational Behavior, 14*, 119-133.

Holahan, C. & Moos, R. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology, 52*, 946-955.

Holahan, C., Moos, R. & Schaeffer, J. (1996). Coping, stress resistance and growth: Conceptualizing adaptive functioning. Cited in: M. Zeidner & N. Endler (Eds). *Handbook of coping*. New York: John Wiley & Sons.

Hooker, K., Frazier, L. & Monahan, D. (1994). Personality and coping among caregivers of spouses with dementia. *The Gerontologist, 34*, 386-392.

Hunt, R., Krzytofiak, F., Meindl, J. & Yousry, A. (1989). Cognitive style and decision making. Organizational Behavior and Human Decision Processes, 44, 436-453. Cited in Scott, S. & Bruce, R. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement, 55*(5), 818-831.

Ivancevich, J., Szilagyi, A. & Wallace, M. (1977). Organizational Behavior and Performance. Santa Monica, CA: Goodyear. Cited in Russ, F., McNeilly, K. & Comer, J. (2001). Leadership, decision making and performance of sales managers: A multi-level approach. *Journal of Personal Selling and Sales Management, XVI* (3), 1-15.

Janovics, J. & Christiansen, N. (2001). Emotional Intelligence in the workplace. Cited in Van Rooy, D. & Viswesvaran, C. (2004). Emotional intelligence: A meta-analytic investigation of predictive validity and nomological net. *Journal of Vocational Behavior, 65*, 71-95.

John, O. (1990). The "Big-Five" factor taxonomy: Dimensions of personality in the natural language and in questionnaires. Cited in David, J. & Suls, J. (1999). Coping efforts in daily life: Role of big five traits and problem appraisals. *Journal of Personality, 67* (2), 265-294.

Kling, K., Ryff, C., Love, G. & Essex, M. (2003). Exploring the influence of personality on depressive symptoms and self-esteem across a significant life transition. *Journal of Personality and Social Psychology, 85*, 922-932.

Kraaij, V., Pruymboom, E., & Garnefski, N. (2002). Cognitive coping and depressive symptoms in the elderly: A longitudinal study. *Aging & Mental Health, 6*, 275-281.

Kraaij, V., Garnefski, N. & van Gerwen, L. (2003). Cognitive coping and anxiety symptoms among people who seek help for fear of flying. *Aviation, Space, and Environmental Medicine, 74,* 273-277.

Kraaij, V., Garnefski, N., Wilde, E.J. de, Dijkstra, A., Gebhardt, W., Maes, S., & Doest, L. (2003). Negative life events and depressive symptoms in late adolescence: Bonding and cognitive coping as vulnerability factors? *Journal of Youth and Adolescence, 32*, 185-193.

Lau, B., Hem, E., Berg, A., Ekeberg, O. & Torgensen, S. (2006). Personality types, coping and stress in the Norwegian police service. *Personality and Individual Differences, 41*, 971-982.

Littleton, H., Horsley, H., John, S. & Nelson, D. (2007). Trauma coping strategies and psychological distress: A meta-analysis. *Journal of Traumatic Stress, 20* (6), 977–988.

Lee-Baggley, D., Preece, M. & DeLongis, A. (2005). Coping with interpersonal stress: Role of big five traits. *Journal of Personality, 73* (5), 1141-1180.

Lefkowitz, J. (1975). Psychological attributes of policemen: A review of research and opinion. *Journal of Social Issues, 31*(1), 3 - 26.

Maitlin, J., Wethington, E. & Kessler, R. (1990). Situational determinants of coping and coping effectiveness. *Journal of Health and Social Behavior, 31*, 103-122.

Masel, C., Terry, D. & Gribble, M. (1996). The effects of coping on adjustment : Re-examining the goodness of fit model of coping effectiveness. *Anxiety, Stress, and Coping, 9* (4), 279-300.

Mayer, J. & Salovey, P. (1997). What is emotional intelligence? Cited in Van Rooy, D. & Viswesvaran, C. (2004). Emotional intelligence: A meta-analytic investigation of predictive validity and nomological net. *Journal of Vocational Behavior, 65*, 71-95.

Mayer, J., Caruso, D. & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence, 27*, 267-298.

Mayer, J., Salovey, P. & Caruso, D. (1999). Models of emotional intelligence. Cited in Van Rooy, D. & Viswesvaran, C. (2004). Emotional intelligence: A meta-analytic investigation of predictive validity and nomological net. *Journal of Vocational Behavior, 65,* 71-95.

Mayer, J. D., Salovey, P., Caruso, D. R., & Sitarenios, G. (2001). Emotional intelligence as a standard intelligence. *Emotion, 1*, 232–242.

McCrae, R. & Costa, P. (1986) Personality, coping and coping effectiveness in an adult sample. *Journal of Personality 54*, 385-405

McCrae, R. & Costa, P. (1987) Validation of a five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology 52*, 81-90

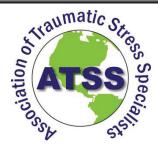McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 60,* 175-215.

McKenney, J. & Keen, P. (1974). How managers' minds work. Cited in Scott, S. & Bruce, R. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement, 55*(5), 818-831.

McMains, M. & Mullins, W. (2001). *Crisis negotiations: Managing critical incidents and hostage situations in law enforcement and corrections* (2nd ed.). Cincinnati, OH: Anderson Publishing.

Messick, S. (1984). The nature of cognitive styles: Problems and promise in educational practice. *Educational Psychologist, 19*, 59-74.

Mitroff, I. (1983). Stakeholders of the Organizational Mind. Cited in Scott, S. & Bruce, R. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement*, 55(5), 818-831.

Nelis, D., Quoidbach, J. Hansenne, M. & Mikolajczak, M. (2011). Measuring individual differences in emotion regulation: The Emotion Regulation Profile-Revised (ERP-R). *Psychologica Belgica, 51* (1), 49-91.

Nikolaou, I. & Tsaousis, I. (2002). Emotional intelligence in the workplace: Exploring its effects on occupational stress and organizational commitment. *The International Journal of Organizational Analysis, 10* (4), 327-342.

Nolen-Hoeksema, S., Parker, L. & Larson, J. (1994). Ruminative coping with depressed mood following loss. *Journal of Personality and Social Psychology, 67*, 92-104.

Nowicki, S. & Duke, M. (1992). The association of children's nonverbal decoding abilities with their popularity, locus of control and academic achievement. *Journal of Genetic Psychology, 153*, 385-393.

Nutt, P. (1990). Strategic decisions made by top executives and middle managers with data and process dominant style. *Journal of Management Studies, 27*, 173-194.

O'Brien, T. & DeLongis, A. (1996). The interactional context of problem-, emotion- and relationship-focused coping: The role of the Big-Five personality factors. *Journal of Personality, 64*, 775-813.

Parkes, K. (1986). Coping in stressful episodes: The role of individual differences, environmental factors, and situ-

ational characteristics. *Journal of Personality and Social Psychology, 51*, 1277-1292.

Penley, J. & Tomaka, J. (2002). Associations among the big five, emotional responses, and coping with acute stress. *Personality and Individual Differences, 32*, 1215-1228.

Quoidbach, J. & Hansenne, M. (2009). The impact of trait emotional intelligence on nursing team performance and cohesiveness. *Journal of Professional Nursing, 25*, 23-29.

Regini, C. (2002). Crisis negotiation teams: Selection and training. *FBI Law Enforcement Bulletin, 71*, 1-5.

Rim, Y. (1986). Ways of coping, personality age, sex and family structural variables. *Personality and Individual Differences, 7*, 113-116.

Rogan, R., Hammer, M. & Van Zandt, C. (1997). *Dynamic processes of crisis negotiation: Theory, research and practice.* Westport, CT: Praeger.

Romano, S. (1998). Third-party intermediaries and crisis negotiations. *FBI Law Enforcement Bulletin, 67*, 20-24.

Russ, F., McNeilly, K. & Comer, J. (2001). Leadership, decision making and performance of sales managers: A multi-level approach. *Journal of Personal Selling and Sales Management, XVI (3)*, 1-15.

Salovey, P. & Mayer, J. (1990). *Emotional Intelligence. Imagination, Cognition and Intelligence, 9*, 185-211.

Scheier, M., Carver, C. & Bridges, M. (2001). Optimism, pessimism and psychological well-being. Cited in Filardo, E., Pickering, D. & Thompson, M. (2005). The Contribution of personality to the ability to board a life raft. *Defence Research and Development Technical Report November 2005.*

Schoemaker, P. & Russo, E. (1993). 'A pyramid of decision approaches'. *California Management Review, 36*, 9-31.

Scott, S. & Bruce, R. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement, 55*(5), 818-831.

Shoda, Y., Mischel, W. & Peake, P. (1990). Predicting adolescent cognitive and self-regulatory competencies from pre-school delay gratification: Identifying diagnostic conditions. *Development Psychology, 26*, 978-986.

Simon, H. (1947). Administrative Behavior. New York: Macmillan. Cited in Russ, F., McNeilly, K. & Comer, J. (2001). Leadership, decision making and performance of sales managers: A multi-level approach. *Journal of*

Personal Selling and Sales Management, XVI (3), 1-15.

Slaski, N. (2001). An investigation into emotional intelligence, managerial stress and performance in a UK supermarket chain. Cited in Zeidner, M., Matthews, G. & Roberts, R. (2004). Emotional intelligence in the workplace: A critical review. *Applied Psychology, 53* (3), 371-399.

Slaski, M. & Cartwright, S. (2002). Health, performance and emotional intelligence: An exploratory study of retail managers. *Stress and Health, 18*, 63-68.

Spicer, D. & Sadler-Smith, E. (2005). An examination of the General Decision Making Style questionnaire in two UK samples. *Journal of Managerial Psychology, 20* (2), 137-149.

Spirito, A., Stark, L. & Williams, C. (1988). Development of a brief coping checklist for use with pediatric populations. *Journal of Pediatric Psychology, 13*, 555-574.

Sullivan, M., Bishop, S. & Pivik, J. (1995). The Pain Catastrophizing Scale: Development and validation. *Psychological Assessment, 7,* 524-532.

Suls, J., David, J. & Harvey, J. (1996) Personality and Coping: Three generations of research. *Journal of Personality, 64*, 711-735.

Taylor, D. (1965). Decision making and problem solving. Cited in Russ, F., McNeilly, K. & Comer, J. (2001). Leadership, decision making and performance of sales managers: A multi-level approach. *Journal of Personal Selling and Sales Management, XVI (3)*, 1-15.

Tennen, H. & Affleck, G. (1990). Blaming others for threatening events. *Psychological Bulletin, 108*, 209-232.

Tett, R., Jackson, D., Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology, 44,* 703-742.

Thoits, P. (1995). Stress, coping and social support processes: Where are we? What next? *Journal of Health and Social Behavior,* (Extra Issue), 53-79.

Thompson, R. (1991). Emotional regulation and emotional development. *Educational Psychology Review, 3*, 269-307.

Thunholme, P. (2004). Decision-making style: Habit, style or both? *Personality and Individual Differences, 36* (4), 931-944.

Thunholme, P. (2008). Decision-making styles and physiological correlates of negative stress: Is there a relation?

Scandinavian Journal of Psychology, 49, 213-219.

Twersky-Glasner, A. (2005). Police personality: what is it and why are they like that? *Journal of Police and Criminal Psychology, 20*(1), 56-67.

Van Rooy, D. & Viswesvaran, C. (2004). Emotional intelligence: A meta-analytic investigation of predictive validity and nomological net. *Journal of Vocational Behavior, 65,* 71-95.

Vickers, R., Kolar, D. & Hervig, L. (1989). *Personality correlates of coping with military basic training* (Report No. 89-3). San Diego, CA: Naval Health Research Center.

Vitaliano, P., Mairuro, R., Russo, J. & Becker, J. (1987). Raw versus relative scores in the assessment of coping strategies. *Journal of Behavioral Medicine, 10,* 1-18.

Watson, D. & Hubbard, B. (1996). Adaptational style and dispositional structure: Coping in the context of the five-factor model. *Journal of Personality Psychology, 64,* 737-774.

Weisinger, H. (1998). *Emotional intelligence at work.* San Francisco, CA: Jossey-Bass Publishers.

Association of Traumatic Stress Specialists
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ATSS is an international organization dedicated to serving the needs of professionals working with the traumatized. Our members benefit from networking, resource linkage and certification.

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Selected Annotated Journal Resources

Michelle Siegel, M.S. and Colleen Jones, M.S.

Danielson, C. K., McCart, M. R., Walsh, K., de Arellano, M. A., White, D., & Resnic, H. S. (2012). Reducing substance use risk and mental health problems among sexually assaulted adolescents: A pilot randomized controlled trial. *Journal of Family Psychology, 26*, 628-635

TYPE OF ARTICLE

- Original empirical investigation.

OBJECTIVE/PURPOSE OF THE ARTICLE

- To investigate the role of self-efficacy and coping strategies in the prediction of maladjustment (depression and pain-related interference with daily life) to chronic pain.

METHODS

Participants

- Participants were 30 adolescent childhood sexual assault (CSA) victims and their caregivers recruited through an urban clinic specializing in the treatment of trauma.

- The mean age of the participants in the sample was 14.8 years (SD = 1.5; range = 13-17), and 88% of the sample were female.

- The sample included 46% African Americans, 37.5% Caucasians, 4.2% Native Americans, 8.3% biracial and 4% Hispanic.

- Inclusion criteria included youth who were: a) aged 12-17 years; b) had experienced one lifetime CSA that could be recollected by them; and c) were not diagnosed with mental retardation.

Materials

- UCLA Posttraumatic Stress Disorder (PTSD) Index for DSM-IV- Adolescent and Caregiver Versions—a self-report inventory that assesses adolescent PTSD symptoms.

- The Child Depression Inventory (CDI)—a self-report inventory used to assess depression symptoms.

- Behavioral Assessment System for Children (BASC-2) parent and youth self report—a self-report instrument that measures participants' internalizing and externalizing symptoms.

- Time Line Follow Back Interview (TLFB)—an interview used to identify specific amounts of alcohol and drugs consumed over the past 90 days.

- Urine drug screens were also used to validate self-reported substance use.

- The Cohesion and Conflict subscales of the Family Environment Scale (FES)—a self- report instrument used to evaluate family environment.

Procedure

- Participants were screened for eligibility through a weekly clinic staffing. Eligible adolescents and their caregivers were approached by a researcher to solicit participation.

- Of the eligible families, 91% agreed to participate. The (legal) caregivers then provided consent and the youth provided assent.

- Participants were randomly assigned to one of two conditions: RRFT or treatment as usual.

- Prior to beginning treatment, participants completed a baseline assessment and a urine screen. After treatment was completed, the assessment measures were re-

administered. The measures were also re-administered at three months and six months post treatment.

RESULTS

- Adolescents who received RRFT reported reduced substance use and improvements in substance use risk factors (e.g., increased family cohesion) compared to the treatment as usual condition.

- Participants in both conditions experienced reductions in PTSD and depression symptoms.

- There were greater reductions in PTSD and depression symptoms in the RRFT condition, based on parent reported PTSD and adolescent reported depression and internalizing symptoms, than in the treatment as usual condition.

- Results should be interpreted with caution, however, since randomization failed to prevent inequality at baseline across the two conditions (RRFT and treatment as usual). This was due to the small sample size, and the unrestrictive inclusion criteria that permitted both substance using and non-substance using youth to participate.

CONCLUSIONS/SUMMARY

- Adolescents with a childhood sexual abuse history are vulnerable to early onset of substance use and abuse.

- Early substance use initiation is linked with many substance use problems among adolescents and adults.

- The identification of treatment strategies, such as RRFT, that can effectively delay the initiation of substance use appears useful.

CONTRIBUTIONS/IMPLICATIONS

- Avoidance coping strategies may be considered as maladaptive.

- Traumatic stressors may negatively impact collective efficacy of rescue teams, leading to poor professional quality of life.

- Interventions aimed at monitoring avoidance coping strategies and collective efficacy following traumatic stressors may be beneficial.

Chan, S., Hadjistavropoulos, R., Carleton, N., & Hadjistavropoulos, H. (2012). Predicting adjustment to chronic pain in older adults. *Canadian Journal of Behavioral Science, 44*, **192-199.**

TYPE OF ARTICLE

- Original empirical investigation.

OBJECTIVE/PURPOSE OF THE ARTICLE

- To investigate the role of self-efficacy and coping strategies in the prediction of maladjustment (depression and pain-related interference with daily life) to chronic pain.

METHODS

Participants

- The sample included 109 older adults with an average age of 75.5 years (SD = 7.4) with chronic pain (pain persisting for at least 6 months for 15 days or more out of the month).

- Individuals had an average of 3.1 medical conditions (SD = 2.0).

- The percentages of people with various medical conditions were; 56.0% arthritis, 40.4% high blood pressure, 25.7% cardiovascular conditions, 17.4% osteoporosis, 13.8% respiratory problems, 11.9% thyroid problems, 11.0% neuropathic pain, 11.0% diabetes, 10.1% high cholesterol, 6.4% fibromyalgia, 5.5% hip or knee replacements, 3.7% ulcers, .9% migraine headaches and 41.3% other conditions (including sensory problems, gout, gastrointestinal problems, sleep apnea and hernia).

Materials

- Demographic and medical information sheet—participants were asked to report age, sex, level of education, ethnicity, marital status, occupational status and annual income. An open-ended question asking the participant to specify the medical conditions with which he or she was diagnosed was also included.

- Pain intensity and pain interference subscales of the Brief Pain Inventory-Long Form—a self-report inventory where participants rate their worst, least, average and current pain intensity on a scale of 0 (no pain) to 10 (as bad as you can imagine).

- Geriatric Depression Scale-15—a self-report depression screen for older adults that excludes the somatic symptoms of depression.
- Chronic Pain Self-Efficacy Scale—a self-report inventory that measures beliefs about one's ability to live well despite the consequences of chronic pain.
- Chronic Pain Coping Inventory-42—a self-report inventory that measures a range of behavioral and cognitive coping strategies that are recommended or discouraged by pain clinicians.

Procedure
- Participants were recruited using posters, newspaper and newsletter advertisements, presentations at seniors' high-rise residences, as well as announcements to seniors' community groups and public talks.
- Participants were also recruited from a list of older individuals who expressed an interest in research participation available through the Centre on Aging and Health at the University of Regina.
- Participants who were interested in participating were provided with a package that contained the study's consent form, demographic questionnaire, study questionnaires, an addressed and pre-stamped envelope, and a debriefing note containing mental health resources in the community.
- Participants were contacted via telephone to ensure they met the inclusion criteria for chronic pain.
- Participants had the option of entering a draw for one of two $50 gift cards for local restaurants.

RESULTS
- For this sample, health-related variables (e.g., pain intensity, medical conditions) as well as cognitive and behavioral variables (e.g., self efficacy, guarding) contributed to adjustment to chronic pain.
- Chronic pain self-efficacy and use of coping strategies (i.e., coping self statements and guarding) made a significant contribution to the prediction of pain interference over and above the contributions of pain intensity and depression.
- Chronic pain self-efficacy also predicted symptoms depression, even after taking into account all of the other medical conditions and pain interference.
- Coping self-statements, which is a strategy normally

expected to be associated with improved adjustment, predicted pain interference.

CONCLUSIONS/SUMMARY
- The findings suggested that in a sample of older individuals, health-related variables (e.g., pain intensity and medical conditions) as well as cognitive and behavioral variables (e.g., asking for assistance, relaxation, coping self-statements, resting, seeking social support) contributed to adjustment to chronic pain.
- Pain coping strategies may be variably important in older adults suffering from chronic pain.
- Coping strategies (i.e., coping self- statements and guarding) that have been found to be effective for younger adults with chronic pain were less effective for older adults with chronic pain.

CONTRIBUTIONS/IMPLICATIONS
- Older adults and younger adults cope differently with chronic pain.
- There is a need for more research to continue to investigate how older adults cope with pain and the associated adjustment issues.

Tsai, J., Harpaz-Rotem, I., Pietrazak, R. H., & Southwick, S. M. (2012). The role of coping, resilience, and social support in mediating the relation between PTSD and social functioning in veterans returning from Iraq and Afghanistan. *Psychiatry, 75, 135-149*

TYPE OF ARTICLE
- Original empirical investigation.

OBJECTIVE/PURPOSE OF THE ARTICLE
- To investigate the variables that may mediate the relation between Posttraumatic Stress Disorder (PTSD) and aspects of social functioning, such as relationship satisfaction and family functioning.

METHODS

Participants
- The sample consisted of 164 Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) veterans.

- The veterans were recruited within one year of their only or most recent deployment.

Materials

- PTSD Checklist-Military version (PCL-M)—a self-report PTSD screening instrument based on the DSM-IV criteria for PTSD.
- Quality of Marriage Index—a self-report measure assessing partner satisfaction.
- Family Adaptation and Cohesion Scale (FACES III)-Family Version—a self-report tool used to assess family cohesion, adaptability and family type.
- Social Functioning Questionnaire (SFQ)—a self-report questionnaire used to provide a detailed assessment of an individual's social functioning.
- The Satisfaction with Life Scale (SWLS)—a self-report questionnaire that assesses life satisfaction.
- The Post-deployment Social Support Scale (PSSS)—a self-report measure from the Deployment Risk and Resilience Inventory that assesses support after military deployment.
- The Thought Control Questionnaire (TCQ)—a self-report measure that assesses the frequency of six thought control strategies including: worry, self-punishment, reappraisal, behavioural distraction, cognitive distraction and social control.
- The Cognitive-Behavioural Avoidance Scale (CBAS) —a self-report measure that assesses avoidance strategies.
- The Fear of Loss of Vigilance Questionnaire (FLOVQ) —a self-report instrument that assesses the degree to which an individual is distressed by situations that involve a loss of vigilance.
- Connor-Davidson Resilience Scale—a self-report instrument that assesses psychological resilience.

Procedure

- The veterans were invited to participate by a research assistant, who was in the waiting areas of mental health or primary care clinics at the VA Connecticut Healthcare System in West Haven.
- All veterans who agreed to participate were given a written informed consent and then asked to complete a packet of self-report measures assessing sociodemographics, service duty, PTSD symptoms, partner and family relationships, life satisfaction, coping and social support.
- Veterans were not compensated for their participation.

RESULTS

- Treatment seeking veterans who screened positive for PTSD reported engaging in more cognitive-behavioral avoidance, had a greater fear of losing vigilance, and reported poorer social functioning and lower life satisfaction compared to other treatment seeking veterans without PTSD.
- Veterans who screened positive for PTSD also reported greater difficulties in their relationships with romantic partners, reported a less cohesive families, less social support, more dysfunctional thought control, and less resilience than other veterans without PTSD.
- Veterans who screened positive for PTSD reported substantially poorer social functioning than other patients with anxiety and depressive disorders and moderately less post-deployment social support compared to the veterans without PTSD.
- The poorer social functioning reported by the PTSD patients may be attributable to less social support from the community, worrying more about unpleasant/unwanted thoughts, less acceptance of change and less availability of secure relationships.
- Lower partner satisfaction among PTSD patients was found to be mediated by greater cognitive social avoidance and also decreased availability of secure relationships.
- The lack of feeling understood by others mediated the association between PTSD and lower life satisfaction.

CONCLUSIONS/SUMMARY

- There are significant psychosocial impairments that OEF/OIF veterans with PTSD may experience compared with other clinical populations.
- Psychotherapeutic interventions that address the mediating variables between PTSD and social functioning (less social support from the community, excessive worry, decreased acceptance of change, and lower availability of secure relationships), may improve social functioning and quality of life for veterans with PTSD.

CONTRIBUTIONS/IMPLICATIONS

- Therapies focusing on enhancing interpersonal skills, altering cognitions and accepting change may help improve social functioning and partner satisfaction for PTSD patients.

- Further research should be done to determine whether this is due to an attentional bias or a priming effect and whether it interacts with other memory processes.

- Given the findings that lack of feeling understood by others mediates the association between PTSD and lower life satisfaction, veterans with PTSD may benefit from peer support networks.

- Psychoeducation about PTSD could be beneficial to the family and friends of veterans by promoting a better understanding that might help veterans feel more understood. This could potentially increase life satisfaction.

TYPE OF ARTICLE

- Original empirical investigation.

OBJECTIVE/PURPOSE OF THE ARTICLE

- To explore deployed soldiers' reactions to psychotherapy and pharmacological treatment options for PTSD.

METHODS

Participants

- Examiners recruited a convenience sample of soldiers deployed to Iraq.

- The sample was predominately male (83%) and had an average age of 28.53 years (SD = 7.76).

- In total, 174 soldiers participated.

Materials

- As part of the procedures of this study, treatment descriptions of Prolonged Exposure (PE), virtual reality exposure (VRE), and FDA-approved medications were created based on patient educational materials.

- A team of three psychologists developed the treatment descriptions and vignettes.

- The Treatment Reactions Scale was developed for the purpose of this study to assess stigma and treatment reactions for specific forms of treatment.

Procedure

- Soldiers were invited to volunteer for an anonymous survey, and individuals who indicated interest were provided with an information sheet that contained an explanation of the present study.

- Questionnaire completion implied participation consent.

- Participants were provided with a written vignette, describing difficulties experienced following distressing combat events.

- Three treatment options were presented; PE, VRE, and medications.

- After reading the vignette and treatment descriptions, soldiers completed the Treatment Reactions Scale.

RESULTS

- Results demonstrated no significant relation between treatment reactions and age, gender, rank, education level, years of service, or number of deployments.

- Soldiers with prior mental health treatment responded significantly more favorably to medications than those without prior treatment, while no significant differences in treatment reactions between those with and without prior treatment for PE and VRE.

- Results demonstrated that soldiers reacted more favorably to PE than medications and more favorably to VRE than medications. No significant difference in treatment reaction between PE and VRE was found.

- Significant differences in responses to the Embarrassment/Shame subscale of the Treatment Reactions Scale according to treatment type were demonstrated, such that lower scores were reported for PE and VRE as compared to medications. No significant difference in responses to the Embarrassment/Shame subscale between PE and VRE was found.

- Significant differences in responses to the Career Impact and Perceived Debasement subscales according to treatment type were demonstrated, such that lower scores were reported for PE and VRE as compared to medications. Again, no significant differences in responses to

these subscales between PE and VRE were found.

- Differences in responses to the Willingness to Recommend subscale of the Treatment Reactions Scale were reported, demonstrating a greater willingness to recommend PE relative to medications. No other significant differences were reported.

- Finally, difference in responses on the Confidence In/Belief In Efficacy subscale were reported, demonstrating increased belief in efficacy for PE as compared to medication. No other significant differences were reported.

CONCLUSIONS/SUMMARY

- Results demonstrated that soldiers surveyed reacted significantly more favorably to PE and VRE than to medicinal treatment for PTSD.

- This response pattern existed across subscales, including scales related to embarrassment and shame, concerns about career impact, and perceived debasement for accessing treatment.

CONTRIBUTIONS/IMPLICATIONS

- Reactions to treatment options impact willingness to seek and adhere to treatment.

- Soldiers' reactions to medications may impact use of a treatment, despite demonstrated efficacy.

- Treatment providers should consider patient reactions and provide appropriate and thorough education to mitigate the impact of these reactions on treatment compliance.

Counsell, A., Hadjistavropoulos, H. D., Kehler, M. D., & Asmundson, G. J. G. (2012). Posttraumatic stress disorder symptoms in individuals with multiple sclerosis. Psychological Trauma: Theory, Research, Practice, and Policy. doi:10.1037/a0029338

TYPE OF ARTICLE

- Original empirical investigation.

OBJECTIVE/PURPOSE OF THE ARTICLE

- To explore the extent to which symptoms of Multiple Sclerosis (MS) were associated with symptoms of PTSD.

METHODS

Participants

- Advertisement that contained contact information and a website address for the survey were used to recruit participants.

- The sample consisted of 126 participants, of which 78.6% were female and 96% were Caucasian.

- The sample had an average age of 45.5 years (SD = 11.6).

Materials

- Duration and type of MS, as well as experience of chronic health conditions, were assessed through open-ended and multiple-choice questions.

- Participants were asked to respond using a Likert-type Scale to one item: "Do you consider having MS to be a traumatic experience?"

- The PTSD Checklist – Civilian Version is a 17-item self-report measure used to assess PTSD symptoms.

- The Multiple Sclerosis Impact Scale is a 29-item measure used to assess impact of MS on daily functioning.

- The Hospital Anxiety and Depression Scale is a 14-item measure of depression and anxiety for hospital, outpatient, and community settings.

Procedure

- Participants completed a password protected Internet-based survey, beginning with an information page detailing the survey and a consent form.

RESULTS

- Results from regression analyses demonstrated that MS type, MS-related disability, and endorsement of MS as a traumatic experience were related to PTSD symptoms.

- The relation between MS variables and MS-related health conditions and PTSD symptoms was demonstrated to be significant, after controlling for demographic variables, general anxiety, and depression.

CONCLUSIONS/SUMMARY

- Results demonstrated that over half of those with MS surveyed considered MS to be at least slightly traumatic, indicating that MS may illicit PTSD symptoms.

- These results support the research suggesting higher

rates of PTSD among individuals with chronic physical conditions.

CONTRIBUTIONS/IMPLICATIONS
- Care providers should tailor treatment to the individual and assess for the presence of distress related to the MS diagnosis and related symptoms.

Olatunji, B. O., Armstrong, T., Fan, Q., & Zhao, M. (2012, August 20). Risk and resiliency in post-traumatic stress disorder: Distinct roles of anxiety and disgust sensitivity. Psychological Trauma: Theory, Research, Practice, and Policy. doi: 10.1037/a0029682

TYPE OF ARTICLE
- Original empirical investigation.

OBJECTIVE/PURPOSE OF THE ARTICLE
- To examine whether high levels of anxiety sensitivity and disgust sensitivity operate as risk factors and whether low levels function as resilience factors in the development of PTSD.

METHODS

Participants
- Participants consisted of 21 veterans diagnosed with PTSD, 16 veterans exposed to trauma but not meeting criteria for PTSD, and 22 nonveteran controls with no diagnoses.

Materials
- The Post-Traumatic Cognitions Inventory is a 36-item measure of trauma-related thoughts and beliefs used to assess for the presence of PTSD.
- The Physical Concerns subscale of the Anxiety Sensitivity Index-3 is a six-item measure of fear of physical anxiety reactions based on beliefs related to their harmful consequences.
- The Disgust Sensitivity subscale of the Disgust Propensity and Sensitivity Scale-Revised is an eight-item measure of how unpleasant individuals consider experiencing disgust.

- The Expressive Suppression subscale of the Emotion Regulation Questionnaire is a four-item measure of the individual differences in expressive suppression.

Procedure
- Participants completed a written informed consent administered by a research assistant prior to participation.
- Participants then completed a diagnostic interview to assess for the presence of other Axis I diagnoses.
- Upon completion of the interview, participants completed symptom measures on computers in a laboratory.

RESULTS
- Veterans with PTSD reported significantly higher levels of anxiety sensitivity than veterans without PTSD and nonveteran controls, while veterans without PTSD and nonveteran controls did not significantly differ in anxiety sensitivity.
- When controlling for group differences in expressive suppression of emotion, veterans with PTSD reported significantly higher levels of anxiety sensitivity than veterans without PTSD and nonveteran controls.
- Veterans without PTSD reported significantly lower levels of disgust sensitivity than veterans with PTSD and nonveteran controls, while veterans with PTSD and nonveteran controls did not significantly differ in disgust sensitivity.
- When controlling for group differences in expressive suppression of emotion, veterans without PTSD reported significantly lower levels of disgust sensitivity than veterans with PTSD and nonveteran controls.
- Anxiety sensitivity and disgust sensitivity were positively and significantly associated among veterans with PTSD; however, no significant relation exists among veterans without PTSD and nonveteran controls.

CONCLUSIONS/SUMMARY
- Excessive levels of anxiety sensitivity may be a risk factor for PTSD, while lower levels of disgust sensitivity may protect against the development of PTSD.

CONTRIBUTIONS/IMPLICATIONS
- Future research may build on these preliminary results to determine whether these sensitivities are the cause or the consequence of trauma exposure.

Book and Media Reviews – Daniel Clark, Editor

Consulting and Advising in Forensic Practice:
Empirical and Practical Guidelines
Edited by Carol A. Ireland and Martin J. Fisher
BPS Blackwell and John Wiley & Sons Ltd, 2010, 273 pages

Reviewed by Kendall Johnson, PhD

Mental health researchers and practitioners are being utilized in increasing numbers as consultants, advisors and employees of organizations—public and private—that provide forensic services ranging from courtroom to law enforcement, to custodial institutions. *Consultancy and Advising in Forensic Practice: Empirical and Practical Guidelines* edited by Carol Ireland and Martin Fisher addresses the issue of how mental health professionals can best assist these forensic settings. This well conceived book of readings is not for the timid, nor for those consultants—forensic or otherwise—who rely on the latest fads, canned programs or passing banners to substitute for the careful thinking and content knowledge necessary to effective consultation. Ireland and Fisher orchestrate a systematic, conceptually comprehensive, and practical guide for serious practice—one which warrants comment on each chapter.

The book addresses two main themes through 13 chapters. Part I deals with consultancy and advising from a theoretical perspective. Chapter 1 by Carol Ireland presents psychological consultancy as an emerging presence in forensic settings, both in the sense of expanding numbers and also in the sense of diversity of roles. More important is her discussion of the changing and fluid nature of the consultancy as a product of the consultant's sensitivity to organizational needs combined with the increasing trust and perception of the usefulness of the individual consultant in the eyes of the organization. This discussion is expanded by Ireland in her Chapter 2 where she provides a good discussion of the key stages and complex issues of stakeholders, organizational boundaries and culture. She provides a nice balance between conceptual organizers and concrete suggestions for working with real organizations. This discussion points out the dynamics of consultation and honors the changing and evolving relationship between consultant and client over time.

Of particular interest to this reviewer is David Vickers, Eliza Morgan and Alice Moore's Chapter 3 discussion relating Theoretically Driven Training and Consultancy, later elaborated in Chapter 11. As a consultant who provides considerable training (as well as being a researcher and educator), I was delighted to find these chapters nudging into the very relevant and usually neglected interface between learning theory and training practice in consulting work. A consultant is at heart an educator, and as such issues of learning and assessment figure high on the list of required competencies for consultation.

Decisions made regarding assessment carry definite ethical consequences. In Chapter 4 Susan Cooper and Martin Fisher rightly elaborate ethical considerations when choosing appropriate testing and assessment instruments, and contextual issues that need to be included when reporting findings. Also of note is their straightforward discussion of the ethical demands of testimony. Professional ethical standards exist to clarify the professional's role in various contexts and courtrooms are the arenas for intersecting interests. This chapter is helpful in it's succinct outlining of various responsibilities. For example, their advice regarding disclosing testing conditions: "it is important for psychologists to make legal authorities aware of the sources of conflict between professional standards and legal issues" is well taken. As is their presentation of conflict of interest considerations from the courts point of view—how confusion over the role of the witness dilutes the usefulness of testimony. Perceived bias taints testimony by a "hired gun."

Part II explores a variety of practical considerations. As a therapist and a qualitative researcher who uses interview data, this reviewer found Andy Griffith and Becky Milne's Chapter 5 discussion of investigation interview considerations fascinating. The enhanced cognitive interview

process—documented to result in more comprehensive and more accurate recall—holds promise beyond the context of forensic interviews. Sometimes more in-depth accounting of personal experience may be useful in those qualitative research interviewing contexts in which rich data is preferred over summative accounts. Also intriguing are the studies cited by Griffith and Milne pointing out that UK laws have recently allowed greater transparency in witness interviewing, and that this allows researchers greater access to study interview methods in relation to corroborated recall. This is the stuff of which qualitative validity is made.

And as an occasional crisis management consultant I was particularly keen on Fisher and Ireland's Chapter 6 on Acting as a Consultant/advisor in Crisis Situations. Very useful information and perspectives are offered, although the chapter is a bit ambitious: incidents range from hostage situations to prison riots to airline hijacking and the Belsan school attack. Key discussion points include consulting context and skills, crisis negotiation models, and ethical considerations. The chapter focuses mainly upon the provision of advice regarding negotiation and problem resolution; for a different approach and broader consideration of consulting roles within different kinds of crisis including disasters and system failure, see chapter 13.

In Chapter 7 Ireland contextualizes her discussion of report writing and court testimony with a brief but helpful history of cases in which court witnesses presented seriously flawed and damaging evidence. Ireland's discussion of report writing is brief but succinct, outlining elements in a complete report, discussing the nature of facts and their presentation, and pointing out various traps and pitfalls to which the unwary are prone. Ireland does an enlightening job of explaining both the hidden purpose of these potential traps and practical strategies to take in responding to them professionally and effectively.

Chapter 8 authors Simon Keslake and Ian Pendlington present an engaging case study utilizing an organization-specific approach to implementing behavior change within a law enforcement organization. The past several decades have shown a dismal succession of attempts to apply popular organizational development approaches that were born in the business sector to the less trendy and more task focused and tradition based public service organizations such as emergency services. Such programs generally meet resistance and are often considered organizational underbrush to the employees who are already too busy doing the agency's work.

Given the diversity of theoretical approaches and ambiguity of current literature, Keslake and Pendington's behavior change framework appears well grounded and practical. Most importantly, the approach begins with listening at all levels and sufficient design rigor is brought to bear on the change process as to give legs to what often amounts to empty flag waving to be endured by already burdened staff. Further, the model incorporates both group level and individualized intrinsic motivation for participant buy-in.

Chapter 9 continues the discussion of employee engagement within the context of the H.M. Prison Service. Suzi Dale examines the links between staff perception and performance in the pressure cooker context of a large established agency dealing with rising public expectations and declining resources, a situation not uncommon elsewhere but critical—given the potential consequences of a doubled prison population within a 15 year period. Through discrepancies in her data regarding performance and attitudes, she demonstrates the need for the Prison Service to embellish its success by including performance metrics based around employee engagement.

While the subject of inspecting prisons initially appeared dreary, this reviewer came away impressed with Chapter 10, wherein Louise Felshaw describes the methodology applied in the inspection of secure institutions in the private sector using the Prisons Inspectorate, providing independent qualitative assessment of the outcomes for those in custody, utilizing multiple methods of evidence. The chapter is well constructed, providing enough contextual background for the reader to understand the Inspectorates function as well as methods. The Inspectorate of Prisons focuses on the human rights of those detained and has developed a methodology underpinned by human rights principles and adopts an outcome-focused approach assessing qualitative outcomes (i.e., what those in custody are actually experiencing). This continued focus of the Inspectorate of Prisons contributes to the Optional Protocol to the U.N. Convention Against Torture (OPCAT, 2003) that mandates "a system of regular visits undertaken by independent international and national bodies to places where people are deprived of their liberty, in order to prevent torture and other cruel, inhuman or degrading treatment or punishment." (OPCAT Article 1, 2006, p. 4). This chapter details an altogether impressive system of on-going evaluation of an enormous and complex system with the well being of many at stake. Would that all countries follow this high road.

Chapter 11 by Morgan, Vickers and Moore provides a succinct, a theoretical introduction to the world of training, including a nifty comparison chart of different training methods described with comparison of the various benefits and issues of each. With the exception of a concluding case study, however, the chapter does little to point out training concerns unique to forensic situations. Also missing are some of the gritty nuts and bolts about how to graciously handle potentially sticky situations such as uncooperative participants who were mandated to come, substandard, incompatible or malfunctioning audiovisual material, panicked organizational managers who intrude in the presentation "to help out," groups or managers with hidden agendas they don't mention, or client organizations who take you aside after the presentation to explain that due to a competing scheduled event they were unable to attract enough attendance to be able to pay you the full fee. There's more, but I'm sure you've been there . . . What this report does highlight is how the development of relationship between consultant and client, punctuated by refining the agreements at each stage of the cycle, can effectively minimize many of the sticky situations mentioned above.

If our human tendency to err is the norm, our propensity to make it worse is legendary—the dark humor of the squad room comes about rightly and has its origin within the organization as well as the street. In an appropriately pithy footnote to Chapter 12 on Systemic Failure and Human Error, Adrian Needs points out that "analysis and action must go beyond scapegoats and platitudes" (p. 219). This chapter is one of the gems of this collection. Along these lines, in his analysis of sources of incident mismanagement, Needs cites Boin & McConnell's (2007) attribution of the response to Hurricane Katrina in 2005 as exhibiting "a number of 'psychological pathologies' such as overconfidence, wishful thinking, insensitivity, bureaucratic complexity and conflict in the system . . . in part due to a preoccupation with civil emergencies due to terrorism in the wake of 9/11." In this regard, he points

out that keeping crises from bad endings (his definition of disaster) requires a crucial move from executing highly structured responses to ill-structured situations, to more comprehensive assessment and more flexible response taking into account multiple models of the situation and challenges to the dominant view. I found Need's discussion important, as fully half of the on-scene CISM Class I & II Incident Command consultation I have provided has to do with difficult situations whose severity have been compounded by actions taken in attempts to contain it, where those actions were themselves driven by latent systemic failures similar to those Boin & McConnell point out.

In the final chapter Roisin Hall and Donald Darroch introduce Project Management as a systematic way of ensuring the implementation of discrete pieces of work with defined product or deliverable that creates a change (e.g., introduction of a new program, provision of a training exercise or research project, setting up a multi-disciplinary information sharing group). The design and management of such project within forensic contexts sometimes befall psychologists directly or indirectly, and the Project Management model defines three stages with intermittent steps at each stage. Creating a clear framework and due consideration of the process at each stage and each step helps avoid the wasted effort and cost, loss of moral, recriminations and poor outcomes of such efforts. Their discussion of the various stages and steps of project management is detailed and provides an operational sense of application.

In all, this is a remarkable book about a complex subject. Mental health professionals consulting in forensic contexts have much to learn from Ireland and Fisher about theoretical, professional, and practical concerns. But it isn't simply a book for consultants. Managers and specialists within the forensic community would do well to seek out the perspectives and parameters presented to enhance their utilization of mental health resources toward their organizational ends.

Evaluating Mental Health Disability in the Workplace: Model, Process, and Analysis

By Liza H. Gold & Daniel W. Shuman
New York: Springer, 2009, 322pp.

Reviewed by Laurence Miller, PhD

Readers of this journal who supervise other personnel know that it is important to determine when an employee is truly disabled and when this may represent a nonveridical or frankly false claim. In the case of a busted knee, the signs and symptoms may be objective enough to make a relatively clear determination. But when it is one's psyche that is broken, there is plenty of room left for doubt and manipulation to muddy the diagnostic picture.

This volume presents a clear and comprehensive guide to understanding and conducting workplace mental health disability evaluations. The book opens with a discussion of ethical, legal, and administrative issues surrounding workplace assessments, including examiner objectivity, limits to confidentiality, and referral questions. The book then takes a theoretical turn and presents the authors' model of work motivation and its impediments, covering the topics of job satisfaction, occupational stress and burnout, job loss and unemployment, and central role of work in a person's mental health and daily life. Although the reader may not agree with every principle in this model, it creates a useful framework for later discussions.

A summary guide to occupational psychopathology follows, describing the main types of psychiatric disorders that may be associated with workplace impairment and disability, especially mood disorders, anxiety disorders, impulse control disorders, substance abuse, and the frequent comorbidities among them. One glaring omission is the absence of any substantial description of personality disorder which, in my experience, represents the largest class of psychopathologies associated with disturbances in workplace behavior – although perhaps not with disability per se.

In fact, the question of just what constitutes a *disability* at all is tackled next, again through a unique model developed by the authors. As before, one need not agree with all facets of this explanatory system, but it creates a theoretical framework for the more practical chapters to follow. Indeed, the next chapter presents a set of specific practice guidelines for conducting a workplace mental health disability evaluation, offering sufficient structure to guide the clinician, but leaving enough flexibility to encompass a wide variety of assessment types and settings.

For clinicians, probably the most confusing aspect of performing these kinds of evaluations is the byzantine maze of disability benefit programs, rules, and regulations, and the next two chapters struggle mightily to unravel this Gordian knot, whose various strands include Social Security, Workers Comp (state and federal), private disability insurance, and the Americans with Disabilities Act. This information will prove invaluable to clinicians who are trying to determine what kinds of information will be most useful for these respective agencies.

A final chapter discusses the psychological fitness-for-duty evaluations. The paradox here is that, unlike most of the disability evaluations done in which claimants are seeking to be compensated for not working, the purpose of the FFDE is precisely to determine whether an employee who wants to continue working can do so in the face of a purported mental disorder or impairment. Nevertheless, the general relevant issues of validity, confidentiality, and interpretation and communication of results apply.

In sum, this book is a valuable contribution to the library of any forensic or industrial-organizational psychologist who performs workplace evaluations that have real effects on real workers' lives.

Forensic Assessment of Violence Risk:
A Guide for Risk Assessment and Risk Management
By Mary Alice Conroy & Daniel C. Murrie
Hoboken, NJ: John Wiley & Sons, 2007, 370pp.

Reviewed by Laurence Miller, PhD

Violence risk assessment is becoming increasingly important in a variety of contexts, from the criminal justice system, to government agencies, to private industry, the military, and law enforcement. The current state of violence risk assessment can be charitably described as a work in progress, with numerous proprietary scales and inventories competing with one another for market prominence and debate still raging as to whether actuarial or clinical risk assessment is more valid and predictive.

So it is refreshing to come upon a book that takes a balanced, integrative approach to risk assessment and does so by presenting a logical, sequential model of data analysis and presentation of results. The first half of the book lays out a systematic model for risk assessment, which includes six interactive and recursive stages: (1) defining the referral question: what are we being asked to determine about this subject? (2) considering normative data and population base rates: what do we know about the relevant violence categories and clinical syndromes in general? (3) considering empirically supported risk and protective factors: what do we know about individuals like this one? (4) considering idiographic risk factors: what do we know about this particular subject? (5) communicating risk assessment results: how can we make our findings most useful to the clinical and legal decision makers? (6) linking risk assessment to risk management: how does our knowledge of this subject's risk translate into the optimum management strategy for him/her?

The second half of the book describes specialized risk management strategies and conceptual issues for dealing with seriously mentally impaired offenders, sex offenders, juvenile offenders, and death penalty defendants. A series of useful appendices offer descriptions of currently used risk assessment instruments and sample risk assessment reports.

A particularly valuable feature of this book is the authors' careful explication of the relationship of actuarial psychometric assessment and informed clinical judgment. This unfortunate "numbers versus wisdom" debate continues to plague a number of domains of psychological assessment, such as neuropsychology and forensic psychology. The present volume shows just how an empirically-informed clinician can still use his or her brain to arrive at a clinically relevant and forensically supportable conclusion.

Psychological Knowledge in Court: PTSD, Pain, and TBI
Edited by Gerald Young, Andrew W. Kane & Keith Nicholson
New York: Springer, 2006, 412pp.

Reviewed by Laurence Miller, PhD

There are a number of resources available for forensic psychologists whose cases involve what I call the *triple threat* of personal injury cases: traumatic brain injury (TBI), chronic pain, and posttraumatic stress disorder (PTSD). Although any of these syndromes can occur by itself, it is remarkable how often they go together and influence one another in cases as diverse as auto collisions, criminal assaults, industrial accidents, and military settings. Yet, until now, there has

been no one resource volume that covers all three syndromes comprehensively, as this book does.

The book is divided into six sections, with Section 1 delineating the legal context for personal injury cases involving these three index syndromes, including legal standards, case law, and the proper role of expert witnesses in personal injury cases. Section 2 covers PTSD, with chapters covering the clinical and forensic aspects of trauma, individual dif-

ferences in susceptibility to traumatic disability syndromes, and specific issues related to psychological trauma following sexual assault. Chronic pain is the subject of Section 3, with chapters describing the psychobiology of pain, cognitive, emotional, and personality characteristics of chronic pain patients, and methodologies for measuring pain and its effects on health and quality of life. A special section, Section 4, deals with the frequent comorbid interrelationship of PTSD and chronic pain in terms of common physiological and psychological mechanisms, as well as clinical and forensic evaluative strategies. In Section 4, the topic of TBI is addressed, particularly with respect to the often contentious topic of "mild" traumatic brain injury. Chapters in this section deal with neuropsychological and neuroimaging assessment of TBI and developing causal models of TBI-related injury for both clinical treatment and forensic adjudication. Additional

chapters confront the thorny clinical-forensic interrelationships among TBI, chronic pain, and emotional disturbance, and a final chapter in this section deals with moderate and severe TBI. Section 6 consists of a single conclusionary chapter which attempts to summarize the lessons learned in the body of the text.

Overall, this volume provides a comprehensive and useful integration of the clinical and forensic issue involved in evaluating three very common and important syndromes in the caseloads of most practicing forensic psychologists, as well as providing practical insights and strategies for presenting psychological findings in court. It will be a valuable addition to any forensic mental health practitioner's bookshelf, as well as providing a useful guide to attorneys who litigate personal injury cases.

Parenting after the Death of a Child: A Practitioner's Guide
By Jennifer J. Buckle, Ph.D. & Stephen F. Fleming, Ph.D.
Routledge, 2011, 206 pages, Hardcover, $39.95

Reviewed by Daniel Clark

Parental grief following the death of a child is arguably one of the most intense and prolonged forms of bereavement. A child's death has an overwhelming impact on a parent's sense of identity, challenges the parent's worldview, and stresses relationships throughout the family.

The authors begin by reviewing the bereavement literature, defining their terms, and exploring several models of bereavement. They then develop their theory of "bereaved parenting," which they define as an active process of living the duality of continuing to parent surviving children and being continuously bereaved. The authors focus on the term "regeneration," an act of picking up the pieces or renewed existence, rather than focusing on accepting, resolving, or moving on. The remainder of their book uses an abundance of clinical case examples from the parent's interviews to illustrate the authors' main findings.

Their study used the grounded theory approach to qualitative research. Ten bereaved parents, five mothers and five fathers, each who had survived the death of their child and had at least one surviving child, comprised the research sample. Each parent was interviewed for 90-150 minutes

using an open-ended, in-depth approach resulting in over 800 pages of material. The resulting transcript was then reviewed and categorized.

From the wealth of material in this work, here are a couple points that struck me. First, consistent with prior research, the authors found that parents grieve the death of their child differently. The parents themselves noted this difference in their interviews. Fathers tend to experience grief cognitively with moderate affect while mothers tend to experience grief in an intensely affective manner. Fathers tend to focus on coping through mastering feelings, while mothers cope by expressing their feelings.

Although these gender differences are notable, participants also commented on the similarities. The tendencies noted above are ends of a continuum, and individual parents may fall anywhere on that continuum. Although the death of a child can place enormous stress on a relationship, it does not mean the inevitable destruction of that relationship, contrary to popular belief. The authors stress the importance in treatment of addressing this destructive myth.

Gender differences are also evident in when parents return to work following the death of their child. In this study, mothers returned to work after 4 to 11 months, while fathers returned to work with 2 to 6 weeks. Although this earlier return may be predicated on financial need, fathers may also seek out additional work responsibilities in a desire to actively do something to manage their grief or to fill the void of their loss.

Second, the authors assert, "The primary issue that confronts the bereaved parent immediately following the death is continuing to meet parental responsibilities while enveloped by grief (p.117)." This dual task of parenting while grieving is complex and difficult, and leads to the question of parental functioning: How able are mom and dad to continue as parents? This study found that although all parents continued to parent at some level, all reported lower levels of parenting. This ranged from parents who rallied to meet the needs of their other children to parents who enlisted the support of family and friends to assume those responsibilities. Participants also practiced "team parenting," trading off who was parenting and who was more actively grieving.

Finally, what are the implications for clinicians, chaplains, and other caring individuals? The authors stress the importance of addressing the daily difficulty of balancing parenting and grieving. In addition, within the family unit, roles and boundaries change after the loss of a family member. Facilitating the ongoing relationship with the deceased child, and how that integrates with the new family structure, is an important clinical task. The authors also recommend monitoring the potential impact of trauma on the grief process, as trauma may contribute to grief complications, depression, or PTSD.

I strongly recommend this excellent resource to anyone working with bereaved parents or family members. It may also be useful to bereaved parents themselves.

Dr. Jennifer Buckle is a registered psychologist and assistant professor of psychology at Sir Wilfred Grenfell College, Memorial University of Newfoundland, Newfoundland, and Labrador, Canada. She has authored publications and presentations on the grief experiences of bereaved parents and the application of qualitative research methods in the study of bereavement.

Dr. Stephen Fleming is a professor in the Department of Psychology, Faculty of Health, at York University in Toronto, Ontario, Canada. He is the author of numerous book chapters, articles, and presentations on the grief experience of children, adolescents, and adults. He has served on the editorial boards of the *Journal of Palliative Care and Death Studies*.

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