Purpose and Scope

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

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

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

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

From Controversy to Confirmation:
Crisis Support Services for the Twenty-First Century

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Abstract: *The field of Critical Incident Stress Management (CISM), a comprehensive, integrated, systematic, and multi-component staff support program, developed, expanded in its scope, and spread rapidly with little criticism for over a decade. The next ten years (1996-2006) could be characterized as a period of intense scrutiny and opposition. CISM has recently emerged from the hostile inspection process stronger and more organized, in many ways, than earlier in its history. Numerous positive outcome studies were completed during the period of evaluation; these support the principles of CISM. Most importantly, the United Nations has recently adopted the concepts of CISM for support of its personnel. [International Journal of Emergency Mental Health, 2008, 10(4), pp. 245-252].*

The rudimentary elements of what came to be known as *crisis intervention* slowly crept into the then newly developing fields of neurology and psychology during the Franco Prussian War of 1870-1871 (Howard, 1991). Efforts to deal with huge numbers of psychologically traumatized war veterans and the psychological effects of France's crushing defeat led to advances in both the recognition of traumatic stress reactions and in the value of simple, supportive services such as rest, nourishment, and verbalization of the traumatic events. Crisis intervention's roots, therefore, grew interwoven within the very roots of the fields of neurology and psychology (Janet, 1889; Richet, 1891; Boadella, 1997; Crocq, 1999).

More than a hundred years ago, crisis intervention began its evolution into a distinct field of its own. Great disasters and a series of horrific wars set the stage for crisis intervention to maintain its links to psychology while, at the same time, developing a wide range of temporary, active, and supportive services to mitigate the impact of emotional distress and to restore people to adaptive functions. There are many luminaries who established the theory base that currently supports the practice of modern day crisis intervention (Charcot, 1890; Stierlin, 1909; Salmon, 1919; Lindemann,

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1944; Kardiner & Spiegel, 1947; Caplan, 1961, 1964, 1969; Artiss, 1963; Parad & Parad, 1968; Solomon & Benbenishty, 1986).

Over time various labels have been applied to efforts to stabilize and to guide people in emotional turmoil. *Crisis intervention, psychological first aid, emotional first aid, critical incident stress management*, and *early psychological intervention* are a few of the terms currently used to describe the organized, supportive assistance provided by trained people in times of acute distress. Although there may be subtle differences, the terms are often used synonymously and each represents a multi-component approach to assisting people in pain (Thorne, 1952; Caplan, 1964; Neil, Oney, DiFonso, Thacker, & Reichart, 1974; Everly & Mitchell, 1997; Everly, 1999; Mitchell, 2004a; Everly & Mitchell, 2008).

This article explores a transition of the Critical Incident Stress Management program from a period of surprisingly rapid, widespread, and peaceful growth through a decade of controversy to a final acceptance of its principles as a support system for staff members of the United Nations.

Controversy in Psychology

As is the case with most human endeavors, controversy accompanied the growth and development of psychology. Experiences, opinions, personality styles, history, emotions, misinterpretations, misapplication of procedures, and many other factors all contribute to differing views of the best approaches to do practically anything in the field. During my research for this article I Google-searched the words, "controversy in psychology." In a matter of seconds the report came back that there were a staggering 3,810,000 entries regarding the topic! I'm sure you'll appreciate that I am resisting the temptation to discuss all of them, but a few examples of controversies in psychology may be helpful. We are, for example, all familiar with the nurture-nature controversy in psychology. Another area of psychological controversy is the argument between behaviorists and psychoanalysts. One final example of controversy is that of Mesmer's theories, the very ones that eventually evolved into the field of hypnosis. Those theories were hotly contested by his contemporaries in the late 1800s. Some of the arguments were not so much against his theories as they were vigorous attacks against him as a person. Be that as it was, Mesmer's theories survived beyond the controversy and became a foundation stone for therapeutic hypnosis as we know it today (Boring, 1929).

Critical Incident Stress Management

Critical Incident Stress Management (CISM), a comprehensive, integrated, systematic, and multi-component package of crisis support services, was initiated in 1974. CISM is a subset of crisis intervention and it shares in its theory, its history, and in the main guiding principles of *proximity, immediacy, expectancy, brevity, simplicity, practicality, and innovation*. This sensible approach to assisting people in times of crisis became extremely popular within a decade (Mitchell, 1983; Mitchell, 2004a). CISM has expanded to incorporate so many crisis support services for such a broad segment of the population that today CISM is a field in itself (Mitchell & Mitchell, 2006; Everly & Mitchell, 2008).

Controversy in CISM

The rapid and widespread dissemination of CISM does not mean that the field escaped controversy. On the contrary, it too has been scrutinized, criticized, and debated for two of the three decades of its existence (Mc Farlane, 1988; Wessely, Rose, & Bisson 1998; Rose, Bisson, & Wessely, 2002; van Emmerik, Kamphuis, Hulsbosch, & Emmelkamp, 2002). Despite the criticisms, CISM continues to exist, to grow, and to expand its services. It is the most discussed, most recognized, and most widely applied crisis support system in the world today (Bisson, McFarlane, & Rose, 2000; Helmus & Glenn, 2005; Meichenbaum, 1994; Raphael & Wilson, 2000). Without question, CISM services are delivered to vast populations through the efforts of more than 1500 Critical Incident Stress Management teams that operate in 30 countries around the globe. Those efforts do not include the activities of the United Nations, which will be described later in this article.

It is not my intention to delve into the details of the CISM controversy. The issues within the debate have been thoroughly explored and appropriately responded to in a variety of articles and book chapters spanning at least a decade (Dyregrov, 1998; Everly, Flannery, & Mitchell, 2000; Everly, Flannery, Eyler, & Mitchell, 2001; Mitchell, 2003a, b; 2004b; 2007; Everly & Mitchell, 2008). There are some cautions, however, that should be heeded when one sets out to read the research in the CISM field. First, it is always recommended that people read the original documents in their entirety or they risk the strong probability that they will misunderstand or misinterpret the studies. Second, look carefully for clear descriptions of what was actually studied. In

most cases related to the CISM field, the researchers so altered the various processes they studied that those processes bear no resemblance to the techniques that are actually applied within the CISM field.

The Lawsuit Behind the Controversy

The backdrop for the main body of the CISM controversy is a lawsuit brought by the Royal Marines against the government of the United Kingdom in 1996. The Marines instituted the lawsuit because they believed that they were denied support services by the Ministry of Defense (MoD) after both the Falkland Islands War in 1982 and the first Persian Gulf War with Iraq in 1990-91. The marines contested that support services might have prevented the development of posttraumatic stress disorder (PTSD). The soldiers asserted that:

- "They didn't look after me when I got back"

- "They didn't pick up all the signs"

- "They didn't listen to……"

- "I didn't get a debrief …"

The primary claim in the lawsuit was that there should have been a crisis support system in place to protect and benefit the mental health of the combatants. Furthermore, the lawsuit claimed that all combat personnel should have had a "debrief" (McGhee, 2008).

The government of the United Kingdom sensed an immediate need to protect itself from a significant economic threat embodied in the Royal Marines lawsuit. The Ministry of Defense engaged Dr. Simon Wessely to lead a concerted effort to disprove the value of debriefing. The first Cochrane Review on debriefing was published in 1998 (Wessely, Rose, & Bisson). It contained reports on six studies. Two of the studies reported positive outcomes; two were described as neutral. Only two of the six studies contained negative results. It should be noted that **none** of the studies were actually performed on the Critical Incident Stress Debriefing (CISD) small group process. All were performed on individual crisis victims, not homogeneous groups. Despite the fact that two studies were positive in their results and two were neutral, and none were actually about the CISD process, the researchers concluded that debriefings did not work. These researchers furthermore suggested that the Royal Marines really had

no claim against the UK's Ministry of Defense because debriefing (a) would probably have caused harm; and/or (b) if not harmful, then it would not have been efficacious (McGhee, 2008).

The first Cochrane Review was so severely criticized that it caused the Cochrane Library to update its review on the issue of debriefing (Rose, Bisson, & Wessely, 2002). The Cochrane Review is touted as a non-biased, objective evaluation of medical and psychiatric procedures. Recognition that in both the 1998 and the 2002 reviews, two of its primary authors were, in fact, authors of studies within the Cochrane Review on "debriefing," raises serious concerns about the review's non-biased, objective evaluation of the debriefing issue. Coincidentally, the second Cochrane review was issued before the court came to its final judgment in the lawsuit. At least one study, which had not even been published at the time, was rushed into the review so that it might serve as evidence in the court's judgment.

Again, this second review did not address the actual Critical Incident Stress Debriefing. Not a single reviewed study actually researched the CISD process; all of the 11 studies in the review were performed on individuals who were wounded victims. A full 25% of the Cochrane Review studies were performed on individual auto accident victims. Another 25% of the studies in the review were performed on individual emergency room patients from house fires, falls, and other physical traumas. A surprising 25% of the Cochrane studies were performed on individual women with pregnancy problems including birth mothers after difficult pregnancies, women who miscarried, and mothers who delivered by Cesarean section. The remaining 25% of the studies were performed on burn victims, sexual assault victims, and dog bite victims. No homogeneous groups, such as emergency personnel, military personnel, or aviation employees, were evaluated in either of the Cochrane Reviews (Wessely, Rose, & Bisson 1998; Rose, Bisson, & Wessely, 2002). In fact the authors admit that "*We are unable to comment on the use of group debriefing, nor the use of debriefing after mass traumas*" (Rose, Bisson, & Wessely, 2002, p.10).

The Trial and the Judgment

The Royal Marines versus the Ministry of Defense (United Kingdom) came to trial in 2001. The claimants' allegation was that the MoD failed to:

- *" devise, operate or implement a suitable system for the handling of personnel following combat, as a generality involving operational debriefing in a group or individually, or similar technique appropriate for date,allowing for psychological first aid and the voluntary ventilation and defusing of past experience in an atmosphere of mutual support for those with mild tomoderate ASR; and with briefings at the conclusions of deployment.*

- *Devise, operate or implement a suitable system for the monitoring and vigilant surveillance of those known to be, or suspected to be suffering from PTSD or in a class objectively at risk from PTSD."* (Generic statement of case)

The Judgment in the case was issued in favor of the UK's Ministry of Defense and against the Royal Marines in 2002. Dr. Simon Wessely claimed that his defense drew "a line in the sand" against the claimants. The judgment does not state that there was no system. It states that there was a system and it was fine. The judgment does not say that the MoD should not now take on board the Mitchell principles. It just states that it did not have to over the time frame covered by the litigation (McGhee, 2008).

An interesting effect of the Royal Marines lawsuit is that "the British military are now utilising their version / interpretation of the Mitchell principles" (McGhee, 2008). A recent randomized controlled trial by the United States Army concluded that the Critical Incident Stress Debriefing (CISD) does not cause harm and is preferred by soldiers over the Stress Management Class that has been offered by the army. Furthermore, the study concluded that the CISD process enhanced the perception that the command structure cared for and supported the operations personnel (Adler et al., 2008).

The United Nations and CISM

While the controversy was at its height, the United Nations was engaged in an independant world-wide review of crisis intervention programs, with the objective of establishing an internal staff support system. In the early years of the United Nations, it was quite rare for in-service staff deaths to occur as a result of warfare or terrorist activity. Most deaths-in-service were the result of accidents or disease. That dramatically changed in 1985 when deaths-in-service caused by warfare and terrorists events rose sharply. The overall staff death rate remained higher during the 1990s than it had been in previous decades. Accidents and disease continue

to take UN lives, but violence against UN staff is currently elevated. The years 2003 and 2007 were among the most violent and lethal for UN staff in its history.

Many dedicated and caring UN personnel regularly encounter a wide range of painful and disturbing personal and occupational tragedies each year. They experience personal illness as well as illness and deaths in their own families. They witness horrific disease, starvation, crowding, and violence against refugee populations. They are sometimes required to perform the difficult task of making announcements of deaths or injuries regarding fellow staff members or people in the communities they serve. In many ways, UN staff function at levels well beyond the call of duty and their efforts are rarely acknowledged or thanked by the world they serve.

The emotional toll on UN staff is high. The long deployments to various nations are disruptive to social life and to marital and family life. Political instability in the countries serviced by the UN can add elements of threat and fear to the already numerous demands on staff members. Some experience so much stress that their health is threatened. Unfortunately some resort to taking their own lives. The suicide rate among UN staff has been on the rise in recent years.

In 2004, Ruth Sembajwe, the leader of the Staff Counselor's Office in the UN headquarters in New York, requested this author's assistance in the establishment of an internal crisis support team for the UN headquarters. Their crisis support team was named the Staff Outreach Support (SOS) team. The mental health professionals and the peers serving on the team were trained in both individual and group crisis intervention skills.

Ruth Sembajwe joined Dr. Moussa Ba, the lead psychiatrist with the UN Department of Safety and Security, and performed a meticulous, objective three-year review of the literature for and against the CISM concepts. They were well aware of the negative outcome studies described in the Cochrane Review as well as almost all other negative outcome studies. They were also aware that the preponderance of studies actually performed on CISM as a whole, or on its components such as the CISD group process, described positive outcomes in their results sections (Bohl, 1991, 1995; Boscarino, Adams, & Figley, 2005; Campfield & Hills, 2001; Chemtob, Tomas, Law, & Cremniter, 1997; Deahl et al. 2000; Dyregrove, 1998; Eid, Johnson, & Weisaeth, 2001; Everly, Flannery, &Mitchell 2000; Everly et al. 2001; Flannery, 2005; Jenkins, 1996; Nurmi, 1999; Richards, 2001; Robinson &

Mitchell, 1993; Vogt, Leonhardt, Koper, & Pennig, 2004; Vogt & Pennig, 2006; Vogt, Pennig, & Leonhardt, 2007; Wee, Miller, & Koelher, 1999; Western Management Consultants, 1996).

The UN representatives concluded that there were three crisis intervention systems that could be considered "best practices" and thus eligible to be incorporated into a UN staff support program. The three programs included the French Research Institute for Education and Research on Traumatic Stress, based in Paris, France and headed by Dr. Louis Crocq. The second was the International Critical Incident Stress Foundation, based in Maryland and co-founded by this author. The third program was the American Academy of Experts in Traumatic Stress, based on Long Island, New York and headed, at that time, by Dr. Mark Lerner. It was decided that a composite of the best elements of the three programs would constitute the UN staff support program.

Representatives of the UN's World Health Organization, the UN headquarters Staff Counselor's Office, and the Department of Safety and Security met with Drs. Crocq, Mitchell, and Lerner in Paris in April, 2006 and again in December, 2006 to plan the training course for the best practices approach to crisis intervention for UN staff. A training manual was produced and two trainings were provided for UN personnel. One was held in Glen Cove, New York in March of 2007; the second was held in Paris, France in June of that year

At the training in Paris, it was announced that the General Assembly of the United Nations had confirmed the name of the UN staff support program as the Critical Incident Stress Management Unit (CISMU). In a challenging, exciting, and interesting decade, CISM concepts passed from a period of intense controversy to confirmation by the United Nations (United Nations, 2007a, b, c).

It is, indeed, a marvelous testimony to the wisdom of the United Nations that the General Assembly decided that it was extremely important to support its personnel in their difficult and stressful missions. The General Assembly heard the intensive requests for adequate staff support. Its members were convinced of the common sense belief that a comprehensive, integrated, systematic and multi-component (CISM) program of support services was required to meet the various needs of UN personnel in the worldwide community. The UN decision to accept a composite CISM system, developed from the three "best practices" crisis systems will make a difference, not only for their own staff, but for countless people in many nations.

Conclusion

The field of Critical Incident Stress Management was born of necessity for emergency services personnel in the turbulent years of warfare and increasing exposure to human misery due to accidents, illness, and natural and technological disasters. Necessity was the driving force that caused CISM to expand well beyond its originally perceived sphere of influence in emergency services. The program has been tested in the adversity of a prolonged and divisive controversy, which often appeared to be based more in the politics of power and influence than in the realm of science. Finally, CISM has emerged with the recognition of a world body.

Recognition and confirmation does not mean that all the misunderstandings, misinterpretations, and controversies in the CISM field have suddenly ended. In all likelihood, disagreements will continue for the foreseeable future. More carefully designed research will be required to answer some of the pressing questions. But research alone will not define the future of staff support services within a CISM program. What will direct the future most will be an open-minded atmosphere that allows the right questions to be asked and encourages researchers to listen carefully to the answers from people who receive CISM support.

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The International Journal of Emergency Mental Health wishes to offer apologies to Dr. Jeffrey Mitchell for omitting the listing of his excellent and very useful article, *A Short Guide to Giving Bad News*, from the cover and table of contents of the Summer 2008 issue of the Journal, Volume 10, No. 3. Dr. Mitchell's article appears on pages 197 – 201 of that issue.

Correction: The correct page numbers for Dr. Laurence Miller's article on juror stress in that same issue are 203 – 218.

Reflections on the Debriefing Debate

Robyn Robinson

Abstract: This article examines the debate on debriefing that has persisted for two decades and remains largely unresolved to this day. A brief history of Critical Incident Stress Management (CISM) and Critical Incident Stress Debriefing (CISD) is given, these being the subject of the debate, followed by a summary of the development and current status of the debate. Discussion follows on why the opposing positions appear to be at a stalemate. [International Journal of Emergency Mental Health, 2008, 10(4), pp. 253-260].

Key words: *Critical Incident Stress Management, CISM, Critical Incident Stress Debriefing, CISD, debriefing, evaluation, debriefing debate, research.*

The debate on whether "debriefing" has positive effects continues for two decades. It has been prolonged. It has included personal attacks and vitriol. The debate, in many respects, remains unresolved today despite sizable and growing research literature. One may well ask, "Why?"

In circumstances like these there are likely to be factors, separate from the research literature, causing the lack of resolution; these ought to be explored. This is a particularly difficult task because, to a large extent, it relies on informed speculation and opinion rather than on description and analysis of research studies. Nevertheless, it is a task that is important to undertake.

History of Critical Incident Stress Management

In the late 1970s, Jeffrey T. Mitchell proposed an idea whose time had come. This was, in essence, that emergency service personnel basically cope well with their job but, from time to time, some may become overwhelmed. This may occur through exposure to especially awful events or through a culmination of events. He argued that, at such times, early and appropriate support would assist most to return to work and could also enable identification of those who might benefit from further ongoing professional assistance. From the outset, Mitchell emphasized that staff support systems should be multi-component (Mitchell, 1983). While he introduced group discussion formats (including Critical Incident Stress debriefing [CISD]), his Critical Incident Stress Management (CISM) model was not limited to this. Mitchell asserted that those who provide support services need to be appropriately and properly trained (including mental health professionals). Also, he saw these staff support programs as being in the time frame of early intervention, with links to, but distinguished from, longer-term counseling or psychotherapy.

The Mitchell model evolved and changed over the years. Many contributed to this development, especially George S. Everly, Jr. who worked closely with Mitchell. Together, they and others expanded Mitchell's early work. The most current form of CISM is best described in Mitchell (2007) and Everly & Mitchell (2008).

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The CISM field encompasses several key innovations in crisis intervention, including the following:

- Recognizing the potential for psychologically traumatic events to impact on emergency service personnel (as well as those from allied professions);

- Articulating how to support staff through multi-component programs, delivered by appropriately-trained personnel in timely ways;

- Recognizing the role which workers themselves (peers) could play in supporting staff, in conjunction with mental health professionals;

- Developing group interventions (such as CISD and defusing) wherein staff who had experienced a critical event could come together to talk about that event and support one another;

- Articulating the many and varied possible needs of workers, immediately post-exposure to trauma, and educating helpers to be flexible in their support by providing practical assistance and a good listening ear;

- Recognizing the kinds of thoughts that are common in workers post-exposure to trauma, and those that are not.

Mitchell's training and early career as an emergency service worker undoubtedly gave him experience and insights into this field. He began educating on "stress response" and, in the space of a few years, it was evident that what he was saying was striking a chord with (and helping) emergency service workers.

Within a decade, the CISM model had spread throughout the USA and other countries, including Canada, Australia, Germany, and Britain. At the same time, the essentially "emergency service model" was adopted and adapted to similar workplaces and other occupational groups where staff were exposed to loss and trauma. These included health agencies, corrective services, defense forces, protective services, airlines, industry counselors, the education sector, the private sector, mining, welfare agencies, and many others. Concurrently, the Mitchell or CISM model continued to expand and to develop as it was field-tested and was found to apply to events from "everyday" critical incidents through to large-scale disasters. "Variations on a theme" evolved as CISM programs were honed to meet particular requirements

of agencies, situations, and culture. Such widespread adaptation and adoption of the model showed its robustness and also its suitability as a crisis intervention model, flexibility being essential in the field of crisis intervention. On the other hand, there were instances where the model was misapplied, used with primary victims and also in organizations where it was not suited to the needs of particular workplaces. Already a picture is painted of how difficult this model was going to be to evaluate.

The Debriefing Debate

There has been prolonged debate concerning the effectiveness and efficacy of debriefing; a debate that remains unresolved at this time. People have taken particular stances and each "side" has its proponents. The format of the debate appears to have followed a pattern wherein specific criticism is raised then rebutted. Soon after, new criticism is raised then rebutted. This pattern of "criticism then rebuttal" has been cyclic. There have also been those who are not closely involved in the field but who seek resolution to the debate and guidance on whether or not to use CISM. While they have been urged to better understand the research literature and make up their own minds (Tuckey, 2007), many have not had the time or inclination to do so.

One unfortunate aspect of the debate has been the level of personal attack on the proponents of CISD and CISM and those who practice and support the model (Levenson, 2004). This has predominantly occurred in speaking presentations, popular publications, and in the print media, but it can also be found in peer-review research literature (Bledsoe, 2003; Devilly & Cotton, 2003). For example, accusations have been made that CISM is a money-making business and its practitioners exploit people financially; that proponents are scaring organizations into adopting debriefing using litigation arguments; that "debriefers" are uncontrolled at disaster scenes and go there to tout for business; and that the proponents of CISM are just clever marketers and charlatans. There have been aspersions cast on the professional and ethical standards of CISM practitioners, sometimes with negative personal comments being made about well-known proponents.

The debate in peer-reviewed literature began, arguably, from a publication in the British Medical Journal which questioned the evidence basis for debriefing (Raphael, Meldrum, & McFarlane, 1995). This paper cites a study that assessed

"debriefing" of workers following an earthquake in Newcastle, Australia (Kenardy et al., 1996). Rescue workers who had been involved in the incident were asked, 12 months after the earthquake, if they had received "debriefing." The study reported that, on measures of the General Health Questionnaire and Impact of Events Scale, those who said they had been "debriefed" did no better than those who said they had not been "debriefed." There were many problems with this study. Debriefing was not defined by the researchers. There was no baseline measure between those who said they had been "debriefed" and those who said that they had not, which could have been used to interpret the assessment outcomes. As the researchers themselves stated, they did not know how participants defined "debriefing" or even if those who stated that they had received debriefing had indeed received any form of intervention. Notwithstanding all of these problems, the researchers concluded that "debriefing" made no difference. Whatever this study assessed, it is highly unlikely to have been CISD, because formal training programs for CISM practitioners had not commenced in Australia at that time.

A wave of negative outcome studies came from attempts to apply "debriefing" to primary victims, using an individual rather than group format and using a particular research design known as randomized controlled trial (RCT). These studies were reported separately and they were also summarized (Rose, Bisson & Wessely, 2002; Van Emmerick, Kamphuis, Hulsbosch, & Emmelkamp, 2002). The summaries have been particularly widely quoted, and have been used to criticize "debriefing" in general and to caution organizations against adopting debriefing practices. There are problems with such conclusions as identified by several authors (see, for example, Everly & Mitchell, 2008; Mitchell, 2003; Regal, 2007; Robinson, 2003; Robinson, 2004; Robinson, 2007; Robinson & Mitchell, 1995; and Tuckey, 2007). The problems include the following.

- Individual intervention is not CISD, which is a group process delivered by trained personnel.

- These studies inappropriately assess "debriefing" outcomes using therapy-outcome variables, yet therapy outcomes are not expected from crisis intervention and they are not the expected outcomes set out by the authors of CISD and CISM.

- Administration of "debriefing" to primary victims, especially within a day or two of hospital admission,

and without assessment of the client's needs, is not within CISM guidelines.

In short, what was studied was not CISD as it is defined within the CISM model.

As a generalization, the studies cited above find no difference between "debriefed" and "non-debriefed" persons. Nevertheless, two of these studies are used to argue that debriefing harms people (Bisson, Jenkins, Alexander, & Bannister, 1997; Hobbs, Mayou, Harrison, & Worlock, 1996). The conclusion drawn by these researchers is particularly unfortunate because both of these studies have severe flaws, which include research design problems. While RCT is itself a highly respected research design, it appears not to have been adequately applied on these occasions and randomization was not achieved in either study.

Bisson and colleagues (1997) administered individual debriefings to burns victims following hospital admission. They found that, at 13 months, 16 (26%) of the debriefed group had PTSD compared to 4 (9%) of the control group. However, the debriefed group also had more severe dimensions of burn trauma. Severity of injury can be expected to influence recovery and to be a stronger predictor of recovery than a one-hour discussion within days of hospital admission. Nevertheless, the researchers seriously question the wisdom of advocating once-off interventions post-trauma.

Hobbs and colleagues (1996) instigated "debriefing" to victims of motor vehicle accidents 24-48 hours after the accident. They found that, at four months, the intervention group had a worse outcome on two subscales of the Brief Symptom Inventory. The intervention group also had a higher mean injury severity score and longer hospital stay (more than double that of the control group). A three-year follow-up (Mayou, Ehlers, & Hobbs, 2000) showed a worse outcome for those who had been "debriefed" (i.e. for the more severely injured group). Again, the authors fail to acknowledge the role of severity of injury and other factors that cannot be controlled over a three-year period. They instead concluded that a one-hour debriefing session, within 48 hours of hospital admission, is responsible for poor recovery at three years.

There are many positive outcome studies. Mitchell listed 65 of these in 2003 (Mitchell, 2003); this was updated in Everly & Mitchell (2008). For example, Wee, Mills, and Koehler (1999) followed emergency medical technicians who had re-

sponded to the 1992 Los Angeles civil disturbance. They found that those who participated in a CISD, relative to those who did not, had significantly lower arousal and intrusion, and fewer stress-related symptoms. Boscarino, Adams, and Figley (2005) studied 1681 adults in New York following the 2001 World Trade Center terrorist attacks. These adults were offered crisis intervention by their workplace. They were interviewed at 12 months and 2 years. The results were compared to a group formed from census data. The group who had received assistance had less alcohol use, fewer PTSD symptoms, less depression, and less anxiety. The authors concluded that post-disaster crisis intervention in the workplace significantly reduces mental health disorders and symptoms up to 2 years after the initial interventions.

CISM programs have also been studied. For example, a CISM program was introduced for 1500 nurses across rural Canada in the mid-1990s. Independent evaluators assessed the costs of staff turnover, disability claims, and sick leave. The assessment occurred before and after the program was implemented. It was found that every Canadian dollar spent on the program resulted in $7.06 being saved. Further, the researchers concluded that CISM significantly reduced turnover among nurses (Western Management Consultants, 1996). Flannery introduced a multi-component CISM-type program, known as the Assaulted Staff Action Program (ASAP), into health settings, including hospitals and schools. Over 15 years, through a series of studies, he has demonstrated that CISM programs provide psychological support to staff, reduce assaults on staff, and reduce the harmful effects of workplace violence, as well as reduce sick leave, accident claims, and staff turnover (Flannery, 2001).

Some of the positive outcome studies have flaws, similar to the negative outcome studies. However, the total number of basically sound positive outcome studies gives a convincing picture of beneficial effects from CISD and CISM. Notwithstanding the above, there is a prevalent view in some sections of the professional and general community that "debriefing does not work" and that the research indicates that it is either ineffective or possibly harmful [see, for example, how the current topic is presented in Wikipedia (www.Wikipedia.com)]. Understanding is needed as to why there is a dominant response to the negative or neutral outcome studies, and a lack of impact from the positive outcome studies.

The Apparent Failure of the Research Literature to Resolve the Opposing Stances

There are examples in other areas where research over time has answered questions and clarified differences. For example, the therapy of Eye Movement Desensitization Reprocessing (EMDR), which was soundly criticized in its early days, has, through studies, been found to be a credible and useful treatment model (American Psychiatric Association, 2004; Foa, Keane, & Friedman, 2000). In contrast, research to date has failed to answer key questions about debriefing. Some possible reasons for this are postulated.

Failure to assess the theory as it is expounded by the author(s) of the theory

It is usual, when elements of a theory are tested, to first describe the author's model (or aspects of it), then for the experimenter to explain how they propose to assess this. There are many examples where this has not happened with studies purported to examine the effectiveness of CISD and CISM.

- The term "debriefing" has been used to study a wide variety of practices, some but not all of which conform to CISD principles. Indeed some practices that have been studied would, within CISM theory, be regarded as bad practices. Conclusions, within studies, have failed sometimes to limit their generalizations to the particular intervention which has been studied.

- CISD has been studied independently of CISM. Some have confused an entire system of support (CISM) with a small group support process (CISD). A good example of the dangers of this can be found in the study of Alder and colleagues (2008). This study implemented the RCT research design well, but it does not test the appropriate application of a CISD. The researchers administered a debriefing for soldiers at the end of a 6-month tour of duty. Such circumstances should call for pre-deployment briefing, on-going support while away, and appropriate and on-going support for staff and families post-deployment. Nowhere in the literature is a once-off CISD at the end of prolonged duty recommended as the support model of choice. One would expect a brief once-off discus-

sion at the end of lengthy duty to be a reasonably ineffectual support response over time, and this is exactly what is found.

- There is confusion over the difference between crisis intervention and therapy. CISD and CISM are sometimes being studied as if they are therapies and with the expectations that they will achieve outcomes that are therapeutic (such as reduction in clinical depression and reduction in posttraumatic stress response). Thus, outcomes of debriefing are being set up which would not be expected or predicted from CISM.

- On occasion, there has been a direct misstatement of theory, with claims that an author's position is different to that which the author has expressed in print. For example, Devilly and Cotton (2003) argue that CISD and CISM are equivalent and that Mitchell does not distinguish between the two.

Views on evaluation, including study design

The field of evaluation is multi-disciplinary and constitutes a field of enquiry in its own right. For some decades, the argument has been put that particular research designs each have their advantages and disadvantages and that complex research issues are often best suited to using a combination of research designs.

RCT is often argued as the design of choice for assessing CISD. While it is rightly praised by many, pre-occupation with this design can hamper the way forward to better assess CISD and CISM. The effectiveness of RCT lies in controlling variables. This is difficult to do with CISM and also, in most cases, undesirable. At the heart of crisis intervention and its effectiveness is flexibility. How can this be assessed by utilizing a research design that imposes maximum rigidity in controlling what helpers do? In fact, RCT may not be the design of choice to assess CISM (or CISD) effectiveness. Rather, a combination of approaches may better build a picture and assist us in assessing CISM. Modern evaluation literature provides many creative options (see, for example, Brinkerhoff, 2003).

If the method of studying CISD is defined by the research design, that design will determine test study conditions. If these conditions do not apply in reality, the danger is that neither the practice nor the theory will be tested. The author reviewed a study that looked at the efficacy of EMDR where EMDR was delivered to several clients. In one case,

when the therapist reached the eye-movement part, the client (in a state of distress) requested the therapist to stop. A trained therapist would normally be very responsive to such a request and stop. Nevertheless, because the therapy was being assessed and "it had to be completed" (to meet design requirements), the therapist continued. The client had a very bad dissociative reaction and reported a negative reaction. The conclusion then was that "EMDR does not work." If there is rigorous implementation of an intervention so that the requirements of a design are met, spurious and negative results can be obtained not due to the intervention but arising from the manner in which it was applied in order to meet "scientific rigors".

Another issue relates to opinions held on the value or otherwise of self-report. Notwithstanding that self-report is a commonly accepted research tool in many areas, self-report of positive experiences in CISD is often discounted by detractors (see, for example, Raphael et al., 1995). Almost all CISD outcome studies report that participants rate CISD positively. However in studies where quantitative measures fail to show a "positive" result in favor of CISD, it is not uncommon for researchers to conclude that there are no clear positive effects. Self-report is therefore given severely diminished credence. It is quite possible that researchers are not administering tests that capture the positive effects that are actually occurring. This possibility needs to be considered more seriously.

Generally negative attitudes towards CISD and CISM

It may be the case that a generally negative view is being held regarding CISD and CISM and that this is influencing the ways that study results are being interpreted and described. If this is so, it is desirable to try to reach some understanding of how the general negativity came about. Some possibilities are as follows.

- *Perceptions of the field being practice-based and unscientifically tested*. CISM is based in the theory of crisis intervention. Nevertheless, its practices also evolved from observation and that which was "found to work." This was later subject to theoretical development and scientific scrutiny. Some would prefer interventions to be theoretically developed first and scientifically tested prior to implementation. However, this is not the first time that useful assistance to others has been based on what has been found to

"work," with assessment and theory development following (e.g., Shapiro, 1995).

- *Perceptions of psychological knowledge being implemented by people who are untrained in psychological practice*. Within the field of physical health and ill health, "turf" battles have been witnessed as nurses, paramedics, first aid personnel, and others formed a tiered response between what had otherwise been a direct link between patient and physician. It is possible that a parallel "shake-up" is occurring in the psychological sphere with intermediaries being introduced between the client /patient and the psychologist or psychiatrist. It is important to remember that CISM, while advocating the role of peer support, articulates how peers fit within the established system and how peer support and mental health professionals should work in cooperation and collaboration with one another. There may also be concerns that the educational programs that equip people to help others are inadequate. It is recognized within the CISM field that more training should and can be done to best equip practitioners. Appropriate organizations, such as the International Critical Incident Stress Foundation, have been developing courses and standards of training on an on-going basis.

- *Perceptions of blind acceptance of the CISM model by the field*. Considerable passion was generated amongst emergency service workers and others, particularly in the early days of CISM, probably because this was an idea whose time had come. This may have led Raphael, for example, to refer to CISM as a social movement (Raphael et al., 1995). CISM was never a social movement, but these words give an indication of some of the concerns that might have been held. It is the author's view that workers, by and large, have a capacity to articulate those support activities that are helpful to them and those that are not. Feedback from recipients of service, together with well-designed and implemented studies, will yield answers regarding the effects of debriefing.

Hope for the Future

Despite the difficulties described in this article, much has been achieved with respect to understanding staff re-sponse to psychological trauma and the establishment of support programs for them. Views on these matters have generally become more enlightened. As well, people have been educated and trained in how to set up and maintain staff support systems. A flexible approach, based on sound principles, including the base line of "do no harm," has been established.

Undoubtedly, better research is needed. It is hoped that this can occur while embracing a broader view of what the field of evaluation can offer. This will enable research designs to be selected on the basis of the questions that need to be answered. It is also to be hoped that the reasons that deadlocks persist, other than those based directly on research outcomes, will continue to be discussed.

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Resistance and Resilience:
The Final Frontier in Traumatic Stress Management

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Abstract: *This paper asserts that the constructs of resistance and resilience represent a domain rich in potential for a wide variety of applications in the field of traumatic stress. Resilience holds great potential for those working in applied settings such as public health planning and preparedness, Employee Assistance Programs (EAPs) and business continuity, as well as transportation, law enforcement, fire suppression, emergency medical services, pre-deployment training for military and other high risk professional groups. Additionally, its application to "the war on terrorism" cannot be denied. Finally, the construct of resilience may have direct applicability to businesses and organizations wherein there is perceived value in preparing a workforce to effectively function under adverse or high stress conditions. The putative value of resistance and resiliency in such applied settings resides in their ability to protect against stress-related behavioral morbidity, as well as counterproductive behavioral reactions. Given its importance, the question arises as to whether resilience is an innate trait or an acquired skill. This paper will report on preliminary data suggesting resiliency may be an attribute that can be acquired through participation in a relatively brief training program. [International Journal of Emergency Mental Health, 2008, 10(4), pp. 261-270].*

Key words: *Resilience, resistance, traumatic stress, crisis intervention, disaster mental health, psychological immunity, employee assistance program (EAP).*

The term *stress* was first coined in the 1930s by Dr. Hans Selye (1956), considered by some to be the father of the stress concept. Selye defined stress as "the sum total of wear and tear on the body." According to Selye, stress has two primary variants: eustress and distress. Eustress is de-

fined as positively motivating stress, while distress is excessive stress that may lead to dysfunction and even mental and/or physical illness. Selye noted that stress could not be avoided altogether, and the absence of stress, he said, is death. Therefore, the goal in managing stress is to experience more eustress than distress, and when distress does occur, to resume adaptive functioning as quickly as possible. Thus, there emerge three potential intervention epochs, in the trajectory of the human stress response: protective resistance or immunity, resilience in the wake of acute psychological or behavioral perturbations and the ability to rebound, and therapeutic recovery and rehabilitation.

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Given the recent advances in the generally recognized therapeutic standard of care in the treatment of excessive and especially traumatic stress, this paper will focus on the emergent constructs of protective resistance and the ability to rebound resiliently in the wake of adversity and otherwise potentially disruptive life events. It may be argued that these constructs or domains represent the "final frontier" in the attendance to traumatic and other forms of debilitating distress.

Defining Human Resilience

Resilience may be thought of as the ability to positively adapt to and/or rebound from significant adversity and the distress it often creates. Psychologists have studied resilience for years; however, their primary research focus has been on recovery from traumatic events, which has often been combined or confused with resilience. There is however, an emerging field of research that focuses on studying resiliency from the true perspective of primary prevention, with the goal of determining characteristics that support or improve resilience prior to exposure to a stressful or traumatic event. Given the relative paucity of research on resilience and primary prevention, there has yet to emerge a complete consensus as to the nature of resiliency and how to create it.

Reivich and Shatte (2002) define resilience as the ability to "persevere and adapt when things go awry" (p. 1). They argue that resilience resides in the domain of cognitive appraisal. Bonnano (2004) defines resilience as the ability of adults to maintain relatively stable and healthy levels of psychological and physical functioning after having been exposed to potentially disruptive or traumatic events. While the majority of adults will face a traumatic experience at some point in their lives, Bonnano argues that most do not succumb to a traumatic stress disorder. This suggests the existence of a functional resiliency that may not be well understood. Bonnano asserts, "…theorists working in this area have often underestimated or misunderstood resilience, viewing it either as a pathological state or as something seen only in rare and exceptionally healthy individuals" (p. 20). Three key points support and further define Bonnano's argument:

1. *Resilience is different than recovery*. The former refers to the ability to maintain equilibrium, whereas the latter refers to a return to functionality subsequent to the development of threshold or sub-threshold manifestations of psychopathology. Bonnano notes, however, that even resilient individuals may manifest transient perturbations in psychological or physical functioning.

2. *Resilience is common*. Bonnano cites a series of investigations that argue psychopathological reactions in the wake of loss or exposure to a life threatening event are rare, with typically less than 30% of affected populations showing evidence of significant maladjustment or posttraumatic morbidity.

3. *There are many different pathways to, or constituent factors within, resilience*. Bonnano suggests that factors such as hardiness, self-enhancement, repressive coping (emotional dissociation), and positive emotions may undergird effective resilience.

Haglund, Cooper, Southwick, and Charney (2007) provide one of the most succinct analyses of the various components of resilience. They identify six primary factors that may protect against and aid in recovery from extreme or traumatic stress: 1) actively facing fears and trying to solve problems; 2) regular physical exercise; 3) optimism; 4) following a moral compass; 5) promoting social support, nurturing friendships, and seeking role models; and 6) being open minded and flexible in the way one thinks about problems, or avoiding rigid and dogmatic thinking.

One model contributing heuristic value to the construct of resilience is the Johns Hopkins Tripartite Model of Resistance, Resilience, and Recovery (henceforth, the Hopkins Model), which embraces the distinction between protective factors and rebound capability (Kaminsky et al., 2007; Nucifora et al., 2007). The Hopkins model describes *resistance* as the "ability of an individual, a group, an organization, or even an entire population to withstand manifestations of clinical distress, impairment, or dysfunction associated with critical incidents, terrorism, and even mass disasters." One could think of resistance as a form of "psychological immunity to distress and dysfunction" (Nucifora et al., p. S34). *Resilience*, in this model, refers to "the ability of an individual, a group, an organization, or even an entire population, to *rapidly and effectively rebound* from psychological and/or behavioral perturbations associated with critical incidents, terrorism, and even mass disasters" (Kaminsky, McCabe, Langlieb, & Everly, 2007). Finally, *recovery* refers to observed improvement following the application of treat-

ment and rehabilitation subsequent to threshold and sub-threshold manifestations of psychological and/or physical morbidity. The Hopkins Model views the notion of self-efficacy and self-confidence as essential elements in resistance and resilience. These elements are supported in prior research as being central features of resilience (Connor & Davidson, 2003; Kobasa, 1979; Nucifora et al.; Rutter, 1985; Wagnild & Young, 1993).

Learning From Resilient Children and Families

The study of resilience was largely initiated via investigations of child development under challenging circumstances. Werner's longitudinal study of children in Hawaii is often considered a seminal work, helping to set the stage for resiliency research (Werner, 1984; Werner & Smith, 1982). After following 505 men and women from childhood through adulthood, Werner concluded that resilient children were: proactive, optimistic, found meaning in life (especially when faced with adversity), and acquired interpersonal support.

In a review of runaway children who showed remarkable resilience, four factors emerged as protective according to William, Lindsey, Kurtz, and Jarvis (2001). These protective factors include determination and persistence, optimism, orientation to problem-solving, ability to find purpose in life, and caring for oneself. According to The Northwest Regional Educational Laboratory, *Fostering Resiliency* [available online: http://www.nwrel.org/pirc/hot9.html], children who develop competence, despite adversity and difficult conditions while growing up, appear to share the following qualities:

1. A sense of self-esteem and self-efficacy,

2. An action oriented approach to obstacles or challenges,

3. The ability to see an obstacle as a problem that can be engaged, changed, overcome, or at least endured,

4. Reasonable persistence, with an ability to know when "enough is enough," and

5. Flexible problem-solving and stress management tactics.

The study of resistance and resiliency is not limited to individuals; it also extends to systems. The family system, an important system to consider, can serve as an effective proxy for the study of organizations of all kinds. McCubbin and McCubbin (1988) argued that there are three things resilient families do that less resilient families fail to do:

1. They believe in the family unit. They believe in the importance of family cohesion. They believe in their ability to support and protect one another, and they are optimistic about their ability to achieve family goals.

2. They celebrate key family events, such as birthdays and anniversaries.

3. They create and uphold rituals and routines.

Finally, the critical factors that appear to assist families to rebound from adversity include a sense of family identity and cohesion, good family communications, adherence to family routines and traditions, optimism, and self-efficacy of the family unit and the ability for the family to advocate for itself (McCubbin et al., 1997).

The Psychology of Stress and Resilience

The previous discussions have offered varying definitions of human resilience as well as provided a list of its functional constituents or undergirding factors. But if the goal is to develop interventions which foster resilience in those who do not innately possess the trait, a deeper analysis is requisite.

We return to Hans Selye to help us better understand the psychology of stress and resilience. Selye noted, "It is not what happens to you that matters, but how you take it." The philosopher Epictetus once wrote that man is disturbed not by things, but by the views which he takes of them. Moving from philosophy to empiricism, Reivich and Shatte (2002) conclude, "our research has demonstrated that the number-one roadblock to resilience is not genetics, not childhood experiences, not a lack of opportunity or wealth. The principle obstacle to tapping into our inner strength lies in our cognitive style…" (p.11).

Theory and controlled empirical investigations alike appear to converge on the conclusion that the response to any stressful event will be greatly influenced by the appraisal of the situation, the ability to attach a constructive meaning to the experience, the ability to foresee an effective means of coping with the challenges of a given situation, and the ability to ultimately incorporate the experience into some

overarching belief system or schema (Everly, 1980; Everly & Lating, 2002; 2004; Reivich & Shatte, 2002; Smith, Davey, & Everly, 2007). A series of research studies was conducted to empirically examine the viability of the putative deterministic role of appraisal in health and work-related outcomes (Smith, Davey, & Everly, 1995; 2006; 2007; Smith & Everly, 1990; Smith, Everly, & Johns, 1993; Smith, Davey, & Stewart, 1998). In a number of investigations, acute cognitive or affective indicators were predictive of physical health outcomes as well as work-related outcomes such as job satisfaction, turnover intention, and burnout. Replicated results indicate that adverse life events are not as important in the ultimate determination of physical health, psychological health, job satisfaction, job performance, and the desire to change jobs as are the cognitive or affective indicia associated with those events.

Perhaps the most operative uses of the notion of constructive cognitions are the constructions of *self-efficacy* (Bandura, 1977; 1982; 1997) and *hardiness* (Kobasa, Maddi & Kahn, 1983). Bandura defines self-efficacy as the belief in one's ability to organize and execute the course or courses of action required to achieve necessary and desired goals. This perception of control or influence is an essential aspect of life itself as Bandura has identified self-efficacy as a guide for life decisions (Bandura, 1997). Bandura further elaborates,

> *"People's beliefs in their efficacy have diverse effects. Such beliefs influence the courses of action people choose to pursue, how much effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing environmental demands and the level of accomplishments they realize"* (Bandura, 1997, p.3).

Bandura (1977; 1982; 1997) described four predictors affecting perception of self-efficacy that are particularly relevant in our discussion of resilience. First is *successful performance* which can contribute to improved efficacy appraisals and vice versa; failed performance can contribute to worsened appraisals (Bandura, 1982). Though enactive attainment has been considered to be the single most powerful way of influencing perceptions of self-efficacy, it is important to note that success is subjective. In fact, Kaminsky and colleagues (2007) concluded, "Objective success shows no

favorable impact on self-efficacy if the individual perceives that result as 'failure'" (p. 4).

The second predictor is *vicarious experience*. Bandura writes, "Seeing or visualizing similar others perform successfully can raise self-percepts of efficacy in observers that they too possess the capabilities to master comparable activities.... By the same token, observing others to be of similar competence fail despite high efforts lowers observers judgments of their own capabilities and undermines their efforts" (Bandura, 1982, p. 27).

The third predictor is *verbal persuasion* and *support* which comprises such constructs as suggestion, encouragement, and education as intervention for improving perceptions of self-efficacy. Cognitive alterations may be brought about by oneself or by another person such as a trainer or coach, supervisor or other person in a leadership position, or a counselor or therapist.

The fourth and final predictor is *physiological* or *affective arousal*.

> *"People rely partly on their state of physiological arousal in judging their capabilities and vulnerability to stress. Because unusually high arousal usually debilitates performance, individuals are more likely to expect success when they are not beset by aversive arousal. Fear reactions generate further fear through anticipatory self-arousal.... People can rouse themselves to elevated levels of distress that produce the very dysfunctions they fear. Treatments that eliminate emotional arousal heighten perceived efficacy with corresponding improvements in performance"* (Bandura, 1982, p. 28).

Kobasa, Maddi, and Kahn (1982) focus on the concept of *hardiness*, described as a protective factor against stressors and therefore a potential predictor of resilience. Hardiness is characterized by: 1) *Control,* or the belief in oneself and ability to control life events; 2) *Challenge,* or the propensity to view stressful events in life as a challenge, thereby allowing oneself to overcome the challenge and potentially grow from the resolution of the stressful event; and 3) *Commitment,* or the tendency to see important activities not just as tasks to be performed, but as commitments that have meaning in and of themselves. Rutter (1985) agreed with Kobasa and colleagues' description of hardiness, not-

ing that a sense of "self-esteem and self-efficacy" increases the likelihood of successful coping, while "a sense of helplessness" increases the chances of failed coping as well as repeated adversity. More importantly, Rutter pointed out that this belief system is not a static personality, therefore lending itself to be altered.

In a further refinement of the theme of cognitive appraisal, researchers investigating resilience to stressors in daily life, as well as the stress associated with grieving, found that positive emotions served to predict successful adaptation to adversity (Ong, Bergeman, Bisconti, & Wallace, 2006). Similarly, Everly, Smith, and Welzant, (2008) discovered that positive states were associated with positive outcomes on the job and inversely correlated with work-related burnout. Fredrickson (2000) underscores the importance of positive states, specifically positive emotions, and argues "that intervention strategies that cultivate positive emotions are particularly suited for preventing and treating problems rooted in negative emotions, such as anxiety, depression, aggression, and stress-related health problems" (p. 1). Fredrickson developed the '*broaden–and–build*' model of positive emotions asserting that negative emotions such as fear, anger, and sadness limit an individual's immediate "thought–action repertoire." Positive emotions, on the other hand, such as joy and contentment, broaden an individual's immediate "thought–action repertoire, which in turn can build that individual's enduring personal resources…" (Fredrickson, p. 1).

Applying Concepts of Resistance and Resilience to a Workplace Evidence-Based Training

Depression, a common response to traumatic events, provides a good example of applying cognitive interventions designed to prevent the onset of mental illness. With the increased attention to the costs employers experience due to depression among their employees, researchers are now seeking to develop evidence-based interventions and trainings designed to prevent depression within the workplace (Couser, 2008; Dunnagan, Peterson, & Haynes, 2001; Hurrell & Murphy, 1006; Kagen, Kagan, & Watson, 1995). Based partially on the constructs described earlier in this paper and placed within the context of a public health approach to primary intervention, depression prevention strategies focus on "reducing modifiable risk factors and improving protective factors" (Couser, 2008, p. 412), which sounds similar to

theorists' perspectives on resistance and resilience.

Recent advances in the mental health field allow for better detection of targeted populations who may be at higher risk for developing depression or other mental disorders. However, when these identified risk factors are not modifiable, such as genetics, family history, gender, upbringing, personality traits, etc., there is little one can do to intervene, not to mention build resistance or resiliency. On a more optimistic note, many risk factors related to the development of depression and other mental disorders, such as posttraumatic stress disorder, are indeed modifiable, either by the affected individual, their environment, or a combination of both. Some risk factors that may lend themselves to modification by an individual through education and intervention include chronic health conditions (Bilsker, Gilbert, Myette, & Stewart-Patterson, 2004), substance misuse (Kendler, Gardner, & Prescott, 2006), self-esteem and self-efficacy (Beardslee & Gladstone, 2001; Bilsker et al., 2004; Munoz, Mrazek, & Haggerty, 1996), social support (Bilsker et al.; Kendler et al., 2006) and perceptions of helplessness or hopelessness (Beardslee & Gladstone, 2001; Bilsker et al.; Munoz et al., 1996).

While depression and other negative reactions to stress are not always preventable, research suggests that working with individuals at risk to improve protective factors may minimize negative reactions and contribute to more positive outcomes (World Health Organization, 2004a). In one study utilizing group training as an intervention for preventing depression, researchers reported significantly reduced symptoms of depression among emergency personnel following a stress management program that included interpersonal conflict resolution, communication, and relaxation (Kagan et al., 1995). In a recent study conducted by Wang and colleagues (2007) employees reported significant improvement of depressive symptoms in addition to positive workplace outcomes among employees who received enhanced services for identification and treatment of depression. Specifically, the intervention utilized telephone outreach and case management services to encourage and support employees at the beginning and through completion of treatment. In addition to reduction in depression symptoms, workplace outcomes included higher work hours and improved job retention.

Thus, integrating Bandura's (1977; 1997) work on self-efficacy and Fredrickson's (2000) model and constituent assertions, the construction of a training program designed to

build resistance, which will in turn enhance resilience, could be developed. Such a program would provide information and education, in addition to assisting in the development of basic stress-management, self-enhancement, and related skills designed to improve self-confidence. Similar to benefits observed following use of exposure therapy (behavior therapy in which a person confronts reactions and feeling about a traumatic event in a therapy setting; Cahill et al., 2006; Van Minnen & Foa, 2006)], resilience may be enhanced by confronting stressors at a time (pre-incident) that "allows for self-confidence and social competence to increase mastery and appropriate responsibility" (Couser, 2008, p. 416). Perhaps one of the most important protective factors is stress management (World Health Organization, 2004b, Jensen, Decker, & Andersen, 2006; Everly & Lating, 2002), which is paramount in the field of primary prevention. Specifically, an effective stress management training program would involve teaching individuals to modify perceptions related to self-esteem, learned optimism, positive self-talk, managing one's environment or space as much as possible, seeking social support, including the creation of a mutually supportive "buddy system" in the workplace, balancing work and life, and reducing excessive emotional and physiological arousal via self-regulatory practices such as relaxation training, mindfulness, and physical exercise. Practice application of such a training program would be appropriate for a business or other work organization where employee populations are identified as being at high-risk for experiencing predictable and potentially traumatic events while working.

A Pilot Investigation

In order to facilitate the progression from theory to practice, a training program based on the constructs described in this article was developed by the current authors with the intention to increase the protective factors of resilience herein referred to as *resistance*.

METHOD

Initially, a six hour training program was developed with the desired outcome being improvement in self-reported confidence and preparedness in the context of workplace crises and disasters. These outcomes were consonant with the authors' beliefs, supported by prior research, that self-confidence and perceived self-efficacy are the core elements of resistance. The curriculum for the training program consisted of a basic introduction to topics relevant to crisis and disaster mental health, a review of the signs and symptoms of excessive stress, an introduction to crisis communication techniques, and selected stress management techniques presented in primarily an educational format. The training was not advertised as a resistance or resilience training program, so as to avoid face validity bias in the assessment aspect of this pilot study.

A within-subjects pre-test and post-test design was utilized with 180 participants in four separate trainings. Participants were employees in the fields of public health, emergency services, and education. Primary outcomes of interest included perceived confidence in one's ability to be stress resistant and resilient. This was measured using three self-report items with a Cronbach alpha of .90 (Spearman-Brown = .94). The second primary outcome of interest was one's perception of preparedness to be stress resistant and resilient, which was also measured using three self-report items and had a Cronbach alpha of .94 (Spearman-Brown = .93).

RESULTS

Regarding the outcome variable of perceived confidence in one's ability to be stress resistant and resilient, the within-subjects paired t-test revealed a statistically significant increase in average scores from pre-test to post-test ($t = 8.98$, $df = 179$, $p<.0001$; Cohen's $d = .61$, $r = .29$). Means for the pre-test were 8.40 ($SD = 2.27$) and means for the post-test were 9.75 ($SD = 2.14$). Regarding the outcome variable of perceived preparedness to be stress resistant and resilient, the within-subjects paired t-test also revealed a statistically significant increase in mean scores ($t = 10.94$, df 179 $p < .0001$; Cohen's $d = .73$, $r = .34$) with pre-test means equaling 8.15 ($SD = 2.33$) and post-test means equaling 9.8 ($SD = 2.15$). Results suggest statistically significant changes emerging as a result of completing the training program, in the hypothesized direction of increased perceived confidence and perceived preparedness to be stress resistant and resilient.

Strengths and Limitations

Given the exploratory nature of this pilot study, the primary focus was on the ability to develop and implement a training program that would be applicable to various high-risk employee populations. The researchers plan to further refine and test the training in the future. As with any re-

search study, especially pilot studies, there are a number of limitations that must be considered before interpreting results. First, the use of a within-subjects pre- and post-test design is limited in its ability to predict causality of observed changes. Therefore, results should be considered cautiously as there is a high likelihood that the observed changes could be due to a threat to internal validity such as history, maturation, and Hawthorne effects. Second, all employees who participated were exposed to the training, resulting in the lack of a control or comparison group. Given the initial potential for success of the training program, future research will utilize a control condition to generate greater confidence in findings. Finally, the researchers developed their own assessment items to measure outcomes and, while the 3-item scales that were utilized demonstrated some validity and reliability, future studies will utilize standardized measures for concepts of self-confidence and self-efficacy. Utilization of outcome variables shown to correlate with self-efficacy and behavioral outcomes would be similarly desired. Using a pre- and post-test design to measure the effectiveness of a training program lends itself nicely for conducting a controlled, randomized study as employees can be randomly assigned to one of two groups (i.e. training group and no training group). Outcomes could be measured after employees are exposed (both groups) to the same traumatic events within a particular course of time. Using a control group that is exposed to the same traumatic events as the experimental group would lend itself to results that would be reliable indicators of outcomes for a training program to teach at-risk work groups resistance and resilience strategies to better manage workplace crises and disasters.

CONCLUSION

The development and initial indicators of success for the training program used in this study, which was designed to increase perceptions of confidence in and preparedness for resistance and resilience among high-risk employee populations, has particular applicability to a variety of work settings. For an employer, preparing employees for probable exposure to traumatic events, training such as this should be a critical element of any comprehensive business continuity plan. The Institute of Medicine (IOM) Report, *Preparing for the Psychological Consequences of Terrorism: A Public Health Strategy*, identifies the workplace as a primary setting for addressing the negative consequences of terrorism, for which the workplace is a primary target (IOM, 2003). Specifically, the IOM recommends that workplaces employ a public

health approach to preparedness, which would incorporate primary prevention interventions, such as the training program described in this article.

Historically, workplaces have focused on continuity of operations post-disaster as they relate to technology and infrastructure, rather than focusing on the human needs of employees and what has been recently termed *human continuity* (Cavanagh, 2003; Mankin & Perry, 2004; Tierney et al., 2001). This failure to attend to the human needs of employees during and immediately following traumatic events has led to employers having to contend with increased negative reactions and responses from employees including, but not limited to, higher levels of work disruption, increased negative and sometimes dangerous health behaviors, and onset or recurrence of mental illness (Grieger et al., 2003; 2005; Stein et al., 2003). These negative reactions contribute to economic impacts due to lost work time / absenteeism, increased disability and healthcare claims, and turnover, among others.

More recent studies on the human aspects of business continuity and preparedness have focused on assessing and preventing risk by modifying and whenever possible eliminating physical risks within the work environment. Additionally, workplaces have been providing timely and appropriate responses to a traumatic event with the goal of mitigating psychological distress that may contribute to short-term and long-term problems. What businesses have not yet fully embraced is their potential role in preparing their employees, psychologically and emotionally, to minimize the negative effects of predictable traumatic workplace events. Resistance, as described in this article, not only enhances a business' risk management plan in surveying and minimizing environmental and physical risks, but also contributes to the preparation of employees to react and recover from probable traumatic events, often referred to as 'occupational hazards.' Examples of high-risk employee populations that could benefit from such training include police, fire and rescue workers, nurses, physicians, the military, air-traffic controllers and other airline employees, and railroad and mass transit employees; and given the recent reshaping of the world economies, those employees working in the financial and international trade professions could potentially benefit from such training.

One workplace model for disaster preparedness and response that already supports the use of hardiness training or stress-hardening in the workplace is the Employee Assistance Program (EAP) Critical Incident Response - Continuum

of Services (The EAP Continuum; Jacobson, Paul, & Blum, 2005; Paul & Blum, 2006). The EAP Continuum specifically describes an EAP's role in workplace disaster preparedness and response. While the majority of EAPs continue to receive initial calls for assistance after the incident has occurred, the ideal situation would be one in which the EAP would work as a strategic partner with the workplace prior to an incident occurring. Specifically, EAPs would collaborate with other workplace leaders to develop a comprehensive business continuity plan which would incorporate interventions such as the one described in this study to build resistance among employees.

Preparedness has always been the most challenging part of the EAP Continuum and other disaster response plans to implement, partially due to false beliefs held by employers that preparing for a traumatic event will increase anxiety among employees (Ursano & Vineburgh, 2003), denial that their business or work organization will be affected by such a disaster (Comp Psych Survey, 2004), and perceived expense of preparing (Ursano, n.d.). The promising possibility of the proposed training program described in this article is that it complements existing workplace disaster response programs and interventions without taking away the importance of crisis response and other security priorities.

Next steps for this training program include further modifying the learning modules to more accurately identify the latent mechanisms that undergird all resistance and resilience among high-risk employee populations. If successfully replicated with future controlled studies, using standardized measures for assessing outcomes, this training program could be very applicable to a variety of workplaces with very little alteration. Implications for the workforce from such a training program will be evaluated in terms of cost-benefit and cost-effectiveness. Considering the relatively low cost associated with providing the training, employers may expect to see a significant return-on-investment, not to mention an improved quality of life for the high-risk employee.

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Crisis Intervention Services and Empirical Data:
Lessons Learned from the Assaulted Staff Action Program (ASAP)

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Abstract: *Nationally, health care is moving toward standards of evidence-based treatments and practices. Evidence-based care is rooted in empirical data that demonstrate safety and efficacy for the intervention in question. In time, all medicines, surgical interventions, rehabilitation approaches, and psychological treatments will be expected to be rooted in data. Crisis intervention services will not be exempted from this national standard. This paper reviews the lessons learned from the Assaulted Staff Action Program (ASAP) data base to illustrate how empirical data can meet the national standard of evidence-based care and improve the quality of services provided. The ASAP data have demonstrated the safety and efficacy of ASAP as well as providing insights for risk management strategies in the changing face of patient violence. [International Journal of Emergency Mental Health, 2008, 10(4), pp. 271-274].*

Key words: *Assaulted Staff Action Program (ASAP), crisis intervention, evidence-based practices, lessons learned, patient assaults.*

After thirty years of intensive crisis intervention research and ten years of this Journal's important contributions toward the field's development, this short perspective focuses on the continuing importance of empirical research in improving the quality of clinically efficacious, cost-effective crisis intervention procedures. The Assaulted Staff Action Program (ASAP; Flannery, 1998), online 24/7 for seventeen years with 34 teams in six states and 1,400 ASAP team members, provides the focus for lessons learned about the important role of empirical data.

It is true, as both historians (Razario, 2007) and clinicians (Raphael & Wilson, 2000) have indicated, that opportunities for personal and societal growth are present in the aftermath of critical incidents. However, in the immediate impact of these critical events lives and communities experience great disruptions and sound, empirically validated methods of clinical intervention need be at the ready for utilization by emergency services and health care providers.

If emergency service and health care providers are doing good work, why is empirical validation important and necessary?

The first principle in medicine and all health care is to do no harm. Human nature being what it is, self-reports of perceived beneficial outcomes by victims and care providers are not necessarily accurate. Even if an intervention is beneficial in one case, the field cannot infer that it would be necessarily beneficial to others in similar circumstances. Some

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objective process is needed in which perceived beneficial outcomes are based in behavior that is observable, measurable, and attainable and which results in empirical data. To obtain this goal, society has created the scientific method to evaluate these processes in health care so as to be sure that medicines, surgical interventions, rehabilitation services, and counseling interventions, including crisis counseling services, are both safe and helpful in resolving the health care issue at hand.

There are two main methods of attaining data. One is *evidence-based **treatment**,* which refers to the interventions that have produced beneficial outcomes in controlled scientific trials where a treatment intervention's effectiveness in one group is compared with similar groups that receive no treatment or another form of treatment. The research goal is to see if the treatment being assessed is both safe and superior to the other comparison treatments. The second form of evidence is known as *evidence-based **practice*** and refers to clinical care that is informed by evidence about interventions, clinical expertise, and patient needs and values. [See Kazdin (2008) for a detailed review of these two differing approaches.] Both approaches yield behavioral, observable, measurable, and attainable data regarding beneficial interventions and outcomes.

Evidence-based treatments and evidence-based practices are rapidly becoming the national standards of care. Health care providers, including emergency services personnel, are expected by licensure, federal and state regulations, insurance companies, and informed employers and patients to practice with evidence-informed interventions. As time passes, interventions that appear efficacious but that are without empirical data will likely no longer be permitted by regulatory statutes nor reimbursed by insurance companies. This is why data collection on the efficacy of crisis intervention procedures has become so critical to the field.

This paper illustrates how empirical data can meet the standard of evidence-based care for efficacy and additionally improve the quality of that care. The paper focuses on some of the important lessons learned from the ASAP program's empirical data (Flannery 1998) during its seventeen years of service. These lessons include the ability to continuously provide crisis intervention services, to enhance quality management procedures, to adapt to societal change with a flexible research design, to publish findings for a critical audience, and to address the cultural resistance and denial associated with psychological trauma.

Lessons Learned

The Assaulted Staff Action Program (ASAP; Flannery, 1998) is a voluntary, system-wide, peer-help, crisis intervention program to assist staff victims of patient assaults with psychological aftermath of these critical incidents. ASAP is a critical incident stress management program (Everly & Mitchell, 1999) in that it contains differing types of intervention services, including individual, group, staff victim support groups, family victim outreach, and individual referrals to trauma specialists, as indicated.

ASAP has firm empirical support and has been associated with resolving intense fear in staff victims. It has also been associated with facility-wide declines in violence in many facilities after an ASAP team was fielded (Flannery, 1998; Flannery, Farley, Rego & Walker, 2006). Although the ASAP declines in violence do not occur in every facility, it happens frequently enough so that the ASAP program has felt that it would be unethical to withhold an ASAP team from any facility that wanted its own team. For this reason, ASAP has not conducted a randomized controlled study to date and the lessons learned research reported below are evidenced-based practice data.

Continuous Provision of Services

The first lesson is the importance and power of empirical data in permitting the ongoing functioning of the ASAP program. This has been true in three sets of circumstances. The first was, and is, the continued functioning of ASAP within the MA Department of Mental Health. Consecutive commissioners have cited the need for ASAP to demonstrate its clinical effectiveness on an ongoing basis and such data has been available for each commissioner.

The second circumstance involved the international debate on Critical Incident Stress Debriefing (CISD; Mitchell & Everly, 2001). This debate focused largely on the perceived lack of empirical evidence to support CISD interventions. In this debate ASAP was cited as a similar crisis intervention program. While helpful suggestions were made to improve ASAP, its empirical foundation was not challenged.

The third set of circumstances involves the emergence of Psychological First Aid (PFA; National Child Traumatic Stress Network and National Center for PTSD, 2005) as an acceptable form for national crisis intervention purposes. ASAP has met and surpassed all PFA standards and, be-

cause of this ability to meet the PFA standards, ASAP has been accepted for use by some state regulators as an empirically-validated crisis intervention procedure.

Enhanced Quality Management

ASAP gathers data on both patient assailants and staff victims in very incident. This ongoing, empirical data base has allowed ASAP to enhance the quality of services rendered to staff victims and to develop risk management strategies for emergency services and health care providers in addressing potential patient violence.

ASAP quality management assessments have resulted in documenting the presence in 1995 of a second large group of potential assailants (individuals with personality disorders; Flannery, 1998); in noting the relative stability of the characteristics of assaultive patients over fifteen years (Flannery, Juliano, Cronin, & Walker, 2006); in verifying the staff victims most at risk over time (Flannery, Farley, et al., 2006); in documenting that random acts of violence are not random but follow a temporal pattern (Flannery, White, Flannery, & Walker, 2008); and in establishing that the clinical triad of past substance use, past violence toward others, and past personal victimization substantially increases the probability of subsequent assaults (Flannery, Hanson, Corrigan, & Walker, 2006). ASAP also learned that potential ASAP volunteers with a history of untreated personal victimization need to have treatment for this victimization before starting ASAP service to preclude the ASAP volunteers being re-traumatized by the critical incidents to which they are called to provide ASAP services.

These empirical findings noted above have been utilized in two main ways. First, this information is provided to all ASAP team members so that their ability to help staff victims understand what has happened is enhanced. Secondly, this information is fed back to staff development and interested parties, such as emergency services, so that appropriate risk management strategies for safety may be fielded and appropriate resources allocated.

Flexible Research Design

Empirical research is usually cross-sectional (a study of people at one point in time) or longitudinal (a study of people over many months or years of time) in nature. Since change in life is the only constant, longitudinal studies, such as ASAP's approach, offer the possibility of empirically captur-

ing change over time. The ASAP program learned from its inception the importance of having a data base that was flexible and that could respond to changes in society as well as changes in health care over time. ASAP's report forms and its subsequent software program have in fact proven flexible over time. In 1994, the data base was expanded to capture important information about trauma symptoms and disruptions in mastery, attachment, and meaning in staff victims. It was successfully expanded again in 2002 to capture important additional patient assailant characteristics. In this way, ASAP has been able to empirically assess the changing nature of patient assaults and their impact on staff victims.

The flexibility of the ASAP data base has also permitted it to be adapted in a variety of settings where violence routinely occurs. These have included homeless shelters, community residences, community day programs, public and private inpatient hospitals, the office of a chief medical examiner, and an aquarium where death threats were being made to employees. Schools could easily adapt ASAP to meet their needs.

Publishing Findings

Health care providers who conduct empirical research have an obligation to report the findings to the larger medical/scientific community, so that the results can be evaluated for further improvement and replicated by other investigators. The goals of the process are to assure safety and efficacy, when such procedures are offered to patients. ASAP data have been helpful in allowing participation in this process. Critical comments by journal reviewers before print and peers who read the article after it appears in print have strengthened the ASAP program as ASAP has been adjusted to address their concerns of potential weak points and to incorporate their suggestions for enhanced improvements. The ASAP program is stronger for its public inspection.

Addressing Cultural Resistance

Violence teaches all of us how tenuous our links are to Mother Earth. It is frightening and understandably human to want to distance one's self from these frightening events. Nonvictims often deny what has happened, deny its impact, deny that it could happen to them, and blame the victims for letting the violent acts befall them. The ASAP program has encountered denial in mangers, union representatives, and employees, individuals who denied that patient violence was

a serious problem and/or denied that it had any negative impact on employee victims. ASAP's empirical data, presented quietly and repeatedly, helped to illustrate the extent and impact of the problem and, over time, persuaded the skeptics that in fact there was a serious problem, and that there was a ready crisis intervention procedure to meet that need. Without the data, opinions would not have likely changed.

In Conclusion

Data have demonstrated that ASAP is a safe, clinically efficacious, cost-effective approach for assisting the staff victims of patient assaults. ASAP data demonstrate that the risk of violence may be reduced, that staff victims may fully recover, and that the program pays for itself. Had it not been for its empirical data, ASAP would probably have ceased to exist and would have been eclipsed by regulations and polices. Its data demonstrated its viability and its capacity to change with the times.

It is true that the unexamined life is not worth living but in health care the unexamined life is becoming nonreimbursable as well. Data collection takes minimal time and effort and provides important information on safety and efficacy. In today's age, it appears perilous not to empirically examine the care that is being provided by any given set of crisis intervention procedures.

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Overview of Findings from the World Trade Center Disaster Outcome Study: Recommendations for Future Research after Exposure to Psychological Trauma

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Abstract: *In this article we review findings from the World Trade Center Disaster (WTCD) Outcomes Study, a prospective cohort study of 2,368 New York City (NYC) adults funded by the National Institutes of Health after the September 11 attacks. The findings reported were based on a baseline survey conducted one year after the disaster and a follow-up conducted two years post-disaster. One of the goals of this research was to assess the effectiveness of post-disaster treatments received by NYC residents following the attacks. Among the major findings of this study were the relatively small increase in mental health service utilization and the fact that only brief worksite interventions seemed to be an effective post-disaster treatment intervention. Specifically, those who received more conventional post-disaster interventions, such as formal psychotherapy sessions and/or psychotropic medicines, seemed to have poorer outcomes. Since this study was designed to assess treatment outcomes, use advanced measurement techniques, and incorporate propensity score matching to control for bias, these treatment findings were unexpected and raised clinical questions. Additional findings were also discussed related to minority group members, alcohol abuse, the onset and course of posttraumatic stress disorder post-disaster, and other findings. Future research is recommended to resolve the issues raised by this important study, especially as this relates to treatment outcomes.* [International Journal of Emergency Mental Health, 2008, 10(4), pp. 275-290].

Key words: *Posttraumatic stress disorder, PTSD, disaster, mental health, alcohol abuse, treatment, effectiveness, outcomes, barriers to care, brief interventions, World Trade Center Disaster, September 11*

Following the September 11 terrorist attacks in New York City (NYC), several large-scale epidemiologic studies were funded by the National Institutes of Health to examine the impact of this event on area residents. The study, *Impact of Mental Health Services in NY after WTC Disaster* (Research Grant R01# MH-66403, Boscarino PI), was one of these in-

vestigations. It's primary purpose was to assess the impact of post-event treatments received by NYC residents following the World Trade Center Disaster (WTCD). The secondary purpose was to describe the prevalence of PTSD and related mental disorders among area residents and to identify risk and protective factors for such outcomes. The WTCD was a unique event in US history and represented the largest war-related loss of life on US soil since the American Civil War (Centers for Disease Control, 2002). In response to this disaster, NYC agencies and institutions, as well as those in surrounding communities, provided an extensive array of mental health treatment services for area residents. In NYC, these services were made available to the public through the federally-funded "Project Liberty" program, which offered mental health services to the general public at no or little cost

(Felton, 2002). Our study offered a unique health services research opportunity and was specifically designed to assess mental health outcomes associated with this service delivery effort (Boscarino, Adams, & Figley, 2004).

STUDY OVERVIEW AND METHOD

The data for this study come from a prospective cohort study of adults who were living in NYC on the day of the disaster. Detailed information on the basic study design has been published elsewhere (Adams & Boscarino, 2005a; Adams & Boscarino, 2005b; Adams & Boscarino, 2006; Adams, Boscarino, & Galea, 2006a; Adams, Boscarino, & Galea, 2006b; Boscarino, Figley, Adams, Galea, Resnick, et al., 2004; Boscarino, Galea, Ahern, Resnick, & Vlahov, 2002; Boscarino & Adams, 2008; Boscarino, Galea, Ahern, Resnick, & Vlahov, 2003; Boscarino, Galea, et al., 2004; Boscarino, Adams, & Figley, 2004; Boscarino, Adams, & Figley, 2005; Boscarino, Adams, Foa, et. al., 2006; Boscarino, Adams, Figley, Galea, et al., 2006; Boscarino, Adams, Stuber, & Galea, 2005; Boscarino, Adams, & Galea, 2006; Galea, Boscarino, Resnick, & Vlahov, 2003; Vlahov et al., 2004; Vlahov et al., 2002). Briefly, using random-digit dialing, a baseline telephone survey was conducted a year after the WTCD attack. As part of the overall study design, residents who reported receiving mental health treatment a year after the attack were "over-sampled" by use of screener questions at the beginning of the survey. The baseline population was also stratified by the 5 NYC boroughs and gender, and was sampled proportionately. Questionnaires were translated into Spanish and then back-translated by bilingual Americans to ensure linguistic and cultural appropriateness. Approximately 7% of these interviews were conducted in Spanish. The baseline survey occurred between October and December 2002 and a follow-up survey occurred one-year later, between October 2003 and February 2004. The data collection procedures were the same for both surveys. Trained interviewers using computer-assisted telephone interviewing (CATI) conducted all interviews. All interviewers were supervised and monitored by the survey contractor in collaboration with the investigative staff. The mean duration of the interview was 45 minutes for the baseline and 35 minutes for the follow-up survey. The Institutional Review Board (IRB) of The New York Academy of Medicine (NYAM) reviewed and approved the study's original protocol. The Geisinger Health System (GHS) IRB subsequently approved the analyses related to the current study.

For the baseline study, 2,368 individuals completed the survey. We were able to re-interview 1,681 of these respondents in the follow-up survey. Using industry-standard survey definitions, the baseline cooperation rate was 63% and the re-interview rate for the follow-up study was 71% (Adams, Boscarino, & Galea, 2006b), consistent with previous epidemiological investigations (Galea et al., 2002). Sampling weights were developed for each wave to correct for potential selection bias related to the number of telephone numbers and persons per household and for the over-sampling of treatment-seeking respondents (Boscarino, Adams, & Figley, 2004). Demographic weights also were used with the follow-up data, to adjust for slight differences in response rates by different demographic groups, a common practice in panel surveys (Groves et al., 2004). With these survey adjustments, the study database is considered representative of adults who were living in NYC on the day of the WTCD attack (Boscarino, Adams, & Figley, 2004).

The basic data analyses in our study focused on answering the following specific research questions.

- Who sought mental health treatment after this event?

- What were the barriers encountered to seeking treatment after this event?

- What were the mental health outcomes among those who received treatment?

- What types of post-disaster interventions were the most effective?

- What were the risk and protective factors for experiencing adverse mental health outcomes after this event?

Earlier research regarding the health consequences of disasters and other traumatic events guided our original study. The post-disaster literature relevant to the WTCD at the time related to the survivors of the Oklahoma City bombing. Among direct survivors of that incident, 45% had post-disaster psychiatric disorders and 34% had PTSD (North et al., 1999). Another study of the same event found that 62% of residents of the Oklahoma City metropolitan area experienced at least one direct stress-related outcome due to the bombing (Smith, Christiansen, Vincent, & Hann, 1999). In addition, a comparison of Oklahoma City area residents to Indianapolis area residents, used as a control group, suggested that Oklahoma residents reported about twice the psychological distress, PTSD, increased alcohol use, and increased smoking

behavior, compared to persons in the Indianapolis area (Smith et al., 1999). Although some investigators have contended that persons recover quickly from these experiences (e.g., McFarlane, 1988; McFarlane, 1989), others suggested that large-scale community disasters could result in significant psychological problems and poorer health outcomes post-disaster (Brewin, Andrews, & Valentine, 2000; Bromet & Dew, 1995: Rubonis & Bickman, 1991). Thus, the research literature at the time suggested that the psychological impact of the WTCD event would be significant. In addition, previous studies of the consequences of PTSD suggested that the impact of this disorder could be substantial (Kessler, 2000; Kulka et al., 1990). Other research suggests that PTSD was not only associated with mental health problems but also with alterations in physical health status (Boscarino, 1996; Boscarino, 1997; Boscarino & Chang, 1999a; Boscarino & Chang, 1999b; Boscarino, 2004; Boscarino, 2006; Boscarino, 2008; McFarlane, Atchison, Rafalowicz, & Papay, 1994; Schnurr & Green, 2004). Furthermore, other research has suggested that survivors of these events have increased psychological difficulties, chronic problems in living, and significant psychosocial resource loss (Adams et al., 2002; Bromet & Dew, 1995; Norris et al., 2002), possibly amplifying adverse health outcomes (Adams & Boscarino, 2006; Boscarino, 1995).

RESEARCH FOCUS
Psychobiological-Stressor Model

Although level of exposure and disaster-related loss are commonly associated with the impact of these events on well-being (Caldera, Palma, Penayo, & Kullgren, 2001; Galea et al., 2002; Geonjian et al., 2001; Mecocci et al., 2000), there are other risk factors involved. Research suggests that increased PTSD vulnerability often occurs among those with a history of mental health disorders, child abuse, or a history of previous traumas (Boscarino, Adams, & Figley, 2004; Breslau, Chilcoat, Kessler, & Davis, 1999; Shalev, 1996). Demographic and socioeconomic factors also are known to affect these experiences (Adams & Boscarino, 2005a). In addition, research has identified the role of social support among those exposed to traumatic stress, both in terms of protecting individuals from PTSD onset (Adams & Boscarino, 2006), and in terms of influencing effective treatments (Boscarino, 1995; van der Kolk, McFarlane, & van der Hart, 1996). In summary, the degree of exposure, social/cultural variables, and other factors, such as self-esteem and other

character traits, are known to enhance or reduce the impact of traumatic stress exposures on mental health (Boscarino, Adams, & Figley, 2004). In addition, while many psychosocial components of traumatic stress exposures are now recognized (Adams, Figley, & Boscarino. 2008), the underlying biological bases of these syndromes have also become apparent (Boscarino, 1996; Boscarino & Chang, 1999a; Boscarino & Chang 1999b; Boscarino, 2004; Boscarino, 2008; van der Kolk, 1996; Chrousos, 1995). Thus, we would expect long-term health issues to emerge in traumatized populations, including increases in substance use, changes in help-seeking behaviors, and the onset of chronic health conditions (Boscarino, 2004; Boscarino, 2008). This psychobiological-stressor model guided the original study design.

Outcomes Research Design

As we note below, our WTCD sample represents one of the limited number of population-based studies that prospectively examined post-disaster mental health services and health outcomes for these interventions following a major traumatic event (Boscarino et al., 2002; Boscarino et al., 2003; Boscarino, Galea, et al., 2004; Boscarino, Adams, & Figley, 2004; Boscarino, Figley, Adams, et al., 2004; Boscarino, Adams, & Figley, 2005; Boscarino, Adams, Foa, et. al., 2005; Boscarino, Adams, Stuber, et. al., 2005). In addition to descriptive research, our data enabled us to test specific hypotheses about the relationships between trauma experiences, the impact of different interventions, risk and protective factors, and long-term mental health outcomes. We note that our study was specifically designed as an outcomes study and was implemented to answer these kinds of research questions using a cohort study design (Boscarino and Chang 1999c; Figley, Carbonell, Boscarino, & Chang, 1999; Hulley, Cummings, Browner, Grady, & Newman, 2007; Rogers et al. 2000; Rosenheck, Stolar, & Fontana, 2000).

The survey instruments used in this research included reliable scales and health services research measures that had been used and validated in previous research (Freedy, Kilpatrick & Resnick., 1993; Kilpatrick, Acierno, Resnick, & Sanders, 1997; Kilpatrick et al., 2000; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993) and recent traumatic stressor research (Adams & Boscarino, 2005a; Adams & Boscarino, 2005b; Adams & Boscarino, 2006; Adams, Boscarino, & Galea, 2006a; Adams, Boscarino, & Galea, 2006b; Boscarino et al., 2002; Boscarino, Adams, & Figley, 2004; Boscarino, Galea, et al., 2003; Boscarino, Galea, et al., 2004;

Boscarino, Figley, Adams, et al., 2004; Boscarino, Adams, & Figley, 2005; Boscarino, Adams, Foa, et al., 2006; Boscarino, Adams, Stuber, et. al., 2005; Boscarino, Adams, & Galea, 2006; Boscarino & Adams, 2008; Galea, Boscarino, et al., 2003). A summary of these scales and measures is presented below in Table 1. Briefly, most of these data were prospectively collected and included the following core measures: (1) demographic characteristics; (2) WTCD exposure variables; (3) exposure to other traumatic events; (4) WTCD rescue and recovery involvement; (5) stressful life experiences; (6) mental health, medical, and other services received pre- and post-disaster; (7) prescription medication use pre- and post-disaster; (8) use of alternative health services pre- and post-disaster; (9) substance use pre- and post-disaster; (10) barriers to care; (11) self-esteem, social support, functional health status and work productivity; (12) post-traumatic stress disorder; (13) major depressive disorder; (14) psychological symptoms in past 30 days; and (15) community-level indicator data (see Table 1).

Table1. Core Measurement Instruments in WTCD Outcome Study*

Measurement Area	Measure 1	Measure 2	Measure 3	Measure 4
1. Mental health status	DSM-IV PTSD for lifetime, past 12 months/30 days	DSM-IV major depression for lifetime, past 12 months/30 days	BSI-18 Psychological symptom scale past 30 days	
2. Substance use	Q-F of tobacco use	Q-F of alcohol use	Binge drinking	CAGE alcohol dependence scale
3. Care visits, treatments & interventions	Outpatient visits & hospitalizations	Outpatient mental health visits & hospitalizations	Psychotropic medication use	Mental health interventions & access to care
4. Stress exposures	Level of exposure to WTC disaster events	Traumatic exposures in lifetime & past 12 months.	Stressful life events in the past 12 months	
5. Social/ community resources	Social support in past 12 months	NORC Social capital scale	Assistance from friends & neighbors	Zip code-level census & NYC health data
6. Psychological resources	Rosenberg self-esteem scale	Anomie hostility scale		
7. Functional status	SF-12: mental & physical functioning past 30 days	Reported work productivity past 30 days		
8. Demographic measures	Age, gender, income, education, ethnicity, race	Work status, immigration status, language spoken	Religion, church attendance	Household composition
9. Other measures	Use of Alternative services	Disaster rescue & recovery involvement	Reported medical history	

WTCD = World Trade Center Disaster   *For more detailed discussion of measures used, see: Boscarino, JA, Adams, RE, Figley, CR. (2004). Mental health service use 1-year after the World Trade Center disaster: implications for medical care. *General Hospital Psychiatry, 26,* 346-358.

MAIN STUDY FINDINGS
Mental Health Service Use – Baseline (Year 1)

The demographic profile for our study population is presented in Table 2. As reported previously, our weighted final sample closely matched the demographic profile of adult NYC residents (Adams et al., 2006b). As can be seen in Table 2, more than half of our population was a member of a minority group, 57% were female, and about 30% had high exposure to the WTCD event, meaning that they had fairly extensive exposure to the attack and its aftermath (Boscarino, Adams, & Figley, 2004). Analyses from one year post-disaster showed that prevalence of current PTSD was about 5% and the prevalence of current major depression was about 12% (Table 3). Furthermore, 20% of New Yorkers had had mental health visits in the past 12 months and 12.9% reported one or more of these mental health visits was related to the WTCD event. Compared to the year before the attacks, 8.6% of New Yorkers had increased post-disaster mental health visits and 5.3% had a new post-disaster treatment episode in the 12 months post-disaster (Table 3). In terms of medications, 8.1% used psychotropic drugs (Boscarino, Adams, & Figley, 2004). Post-disaster psychotropic medication use related to the WTCD event was 4.5%. Increased post-disaster medication use, compared to the year before the disaster, was 4.1% and new medication episodes occurred among 3% of New Yorkers (Boscarino, Adams, & Figley, 2004). As with outpatient visits, post-disaster medication usage was lower than expected (Boscarino, Adams, & Figley, 2004).

In multivariate logistic regression analyses, increased mental health visits were associated with younger age, peri-event panic attack, negative life events, and depression. In addition, WTCD-related visits had a positive "dose-response" association with level of WTCD exposure ($p < 0.0001$ for trend). WTCD-related visits also were positively associated with peri-event panic, anxiety, lower self-esteem, PTSD, and depression. Increased post-disaster medication use was positively related to PTSD and depression, and negatively associated with African American status. WTCD-related medication use also was positively related to younger age, female gender, WTCD exposure level, negative life events, PTSD, anxiety, and lower self-esteem.

In summary, while the percentage of New Yorkers seeking post-disaster treatment did not increase substantially from the pre-disaster period, the volume of visits among existing patients apparently increased. We concluded that exposure to WTCD events was related to post-disaster PTSD and de-pression, as well as WTCD-related mental health service use in New York. However, contrary to expectations, although the WTCD did have an impact on treatment seeking among existing patients, it did not substantially increase mental health treatment seeking among the general NYC population (Boscarino, Adams, & Figley, 2004). Given the availability of post-disaster mental health services (Felton, 2002), it was thought that services use would be much higher.

Mental Health Service Use – Follow-up (Year 2)

Analysis of treatment seeking at follow-up (i.e., year 2 post-disaster) revealed that there were some increases in obtaining treatment in comparison to before the WTCD. The most noteworthy increase was for psychotropic medication use, which went from 8.5% before the WTCD to 12% two years after the attack ($p < .001$). Two years after the WTCD, 24% of NYC adults had received some type of mental health treatment in the form of therapy or medication in the past 12 months. This was an increase from the baseline survey (i.e., year 1 post-disaster), which was 20%. In addition, at follow-up, the majority of the time NYC residents reported that their post-disaster treatment was related to the WTCD, which was not the case one-year post-disaster. Detailed multivariate analyses for those who sought treatment after the WTCD in the year 2 follow-up survey suggested that those who experienced negative life events were more likely to seek counseling and those with low self-esteem were more likely to take psychotropic medications. Finally, those who reported that their counseling or medication use was related to the WTCD, were more likely to report greater exposure to the WTCD event. (Results available on request.)

Treatment Barriers

A second focus of the original study was to examine potential barriers related to using mental health services in NYC after the WTCD. When we examined at baseline those who met criteria for PTSD or major depression post-disaster, only 45% reported using post-disaster mental health services and only 33% indicated that they sought these services for WTCD-related problems (Boscarino, Adams, Stuber, et al., 2005). In a multivariate logistic model, only WTCD exposure was significant in predicting post-disaster service use among persons with these psychological disorders. For service utilization related to the WTCD, results indicated that African

Table 2. Demographic Profile for Baseline (Year 1) and Follow-up (Year 2) for WTCD Outcome Study*

Demographics	1 Year Post Disaster (N=2368)		2 Years Post Disaster (N=1681)	
	Percent (N)	95% CI	Percent (N)	95% CI
Age				
18-29	27.2 (483)	24.8-29.7	22.7 (284)	20.1-25.6
30-44	34.2 (866)	31.8-36.7	32.9 (596)	30.1-35.8
45-64	28.8 (726)	26.5-31.1	32.5 (586)	29.8-35.4
65+	9.8 (248)	8.5-11.4	11.9 (215)	10.1-13.9
Gender				
Male	46.2 (1016)	43.6-48.8	46.2 (693)	43.2-49.3
Female	53.8 (1352)	51.2-56.4	53.8 (988)	50.7-56.9
Race				
White	39.3 (1015)	36.9-41.7	43.0 (782)	40.1-45.9
African American	26.3 (606)	24.2-28.6	26.0 (422)	23.4-28.7
Hispanic/Latino	25.7 (559)	23.5-28.1	24.1 (367)	21.5-26.9
Asian	5.2 (99)	4.1-6.6	4.6 (62)	3.4-6.1
Other	3.5 (89)	2.7-4.5	2.4 (48)	1.7-3.4
Borough of Residence				
Manhattan	21.1 (555)	19.8-22.5	21.0 (411)	19.5-22.6
Bronx	15.6 (373)	14.4-16.8	15.5 (252)	14.1-17.0
Brooklyn	30.1 (707)	28.5-31.7	30.3 (490)	28.4-32.2
Queens	27.9 (594)	26.4-29.4	27.7 (423)	26.0-29.5
Staten Island	5.4 (139)	4.7-6.2	5.5 (105)	4.65-6.3
Exposure to WTCD				
Low Exposures	26.5 (510)	24.2-28.9	26.7 (362)	24.0-29.6
Moderate Exposures	44.0 (1003)	41.4-46.6	43.9 (719)	40.9-47.0
High Exposures	22.0 (594)	20.0-24.2	21.8 (416)	19.4-24.4
Very High Exposures	7.5 (261)	6.4-8.8	7.6 (184)	6.3-9.1

*Note: All N's are unweighted. Percentages and confidence intervals shown represent the weighted data (i.e., adjustments to the sample for the number of telephone lines and adults in the household, the treatment over-sample, and survey stratification). CI = Confidence interval; WTCD = World Trade Center Disaster.

Americans were less likely to have had mental health visits compared to Whites, while those who had a regular doctor, had greater exposure to WTCD events, and those who had a peri-event panic attack were more likely to have such visits. In terms of medication use, 26% of these PTSD-depression cases used psychotropic drugs in the year after the WTCD and 16% reported that this use was related to the disaster. Multivariate results, again, suggested that African Americans were less likely to use post-disaster medications, whereas persons 45+ years old, those with a regular doctor, those exposed to more WTCD events, and those who had a peri-event panic attack were more likely to have taken medica-

tions related to the disaster (Boscarino, Adams, Stuber, et al., 2005). When we asked this group of respondents at baseline why they did not seek help, many indicated that they did not think that they had a problem, that they had the help of family and friends, or that they tried to solve these problems on their own (Boscarino, Adams, Stuber, et al., 2005).

Racial and Ethnic Group Results

The discovery of racial/ethnic disparities in seeking treatment led us to assess the association between race/ethnicity and psychological health status in more detail at baseline

(Adams & Boscarino, 2005a). When we did this, there was no evidence of racial/ethnic differences for PTSD, PTSD symptom severity, or the likelihood of being classified in poor physical health on the SF-12 physical health scale, once other risk factors were controlled. In fact, African Americans were less likely to meet criteria for major depression or to be classified as unhealthy on the SF-12 mental health scale (Adams & Boscarino, 2005a). Only for peri-event panic attack were there significant differences by ethnicity, with both African Americans and Puerto Ricans more likely to meet criteria for this mental disorder relative to Whites (Adams & Boscarino, 2005a).

Functional Health Status Outcomes

Using baseline data, we also examined the relationship between exposure to the WTCD and functional health status following the attacks based on the SF-12 scale. Overall — the greater the exposure to WTCD events, the poorer psychological well-being — even after controlling for demographic characteristics, other stressors, and social psychological resources (Adams & Boscarino, 2005b). Exposure was only weakly related to physical well-being, however, once other factors were controlled.

We also examined the consequences of the WTCD longitudinally. In ordinary least-squares regression models that contained demographic characteristics, stress risk factors, and stress moderators as independent variables, level of exposure to the disaster was associated with follow-up (i.e., year 2 post-disaster) physical and psychological well-being. However, we found that level of exposure was not related to these outcomes, once the baseline (year 1) measure of the follow-up dependent variable was controlled in these models. This suggested that disaster exposure did not continue to have a lasting negative impact on physical or psychological health status (Adams, Boscarino, & Galea, 2006a).

Our results did indicate that experiencing a WTCD-related peri-traumatic panic attack was related to poorer physical health status post-disaster at baseline, while meeting the criteria for alcohol dependence post-disaster was associated with poorer mental health status at baseline (Adams, Boscarino, & Galea, 2006a). At follow-up, however, and contrary to expectations, WTCD-related peri-traumatic panic attack did not have an adverse impact on health, once other risk factors were controlled (Boscarino & Adams, 2008).

Results Related to PTSD Onset and Course

As noted, our results suggested that the prevalence of PTSD 12 months post-disaster was about 5% (Boscarino, Adams, & Figley, 2004). Further analyses suggested that there were significant associations between PTSD at baseline and being female, being younger, having lower self-esteem, having lower social support, having greater WTCD event exposures, having greater lifetime traumatic events, and having a history of depression (all p-values < 0.05; Adams & Boscarino, 2006). However, the results were different for PTSD at follow-up (year 2 post-disaster). At follow-up, being middle-aged, being Latino, having lower self-esteem, having more negative life events, and having higher traumatic life events were now significant predictors of PTSD (Adams & Boscarino, 2006). Noteworthy was that WTCD event exposure now was not significant at follow-up. Further analyses suggested that the onset of "delayed PTSD" at follow-up tended to be associated with the onset of negative life events and decreases in self-esteem, not with previous WTCD event exposure, per se. (Adams & Boscarino, 2006). The finding for self-esteem and PTSD outcomes are shown in Figure 1. As can be seen, increased self-esteem is associated with remitted PTSD at follow-up (i.e., PTSD at baseline, but not at follow-up) and decreased self-esteem is associated with delayed PTSD at follow-up (i.e., no PTSD at baseline, but PTSD at follow-up). Also noteworthy is that the resilient PTSD cases (i.e., no PTSD at baseline or follow-up) have the lowest levels of low self-esteem of any of the PTSD groups studied (see Figure 1).

Alcohol Abuse

Since research has suggested that exposure to psychological trauma was associated with increased abuse of alcohol (Boscarino, Adams, & Galea, 2006), we analyzed alcohol consumption, binge drinking, and alcohol dependence among study participants at one year and two years post-disaster. In multivariate models controlling for demographic factors, other stressor exposures, psychological resources, and history of anti-social behavior, we found that greater exposure to the WTCD event was associated with greater alcohol consumption at one year and two years after this event (Boscarino, Adams, & Galea, 2006). In addition, our analyses indicated that exposure to the WTCD was associated with binge drinking at one year after but not two years after this event. Alcohol dependence, assessed as present in either year 1 or year 2, also was positively associated with greater

Figure 1. Percent of Respondents Having Low Self-Esteem
by PTSD Status at Follow-up*
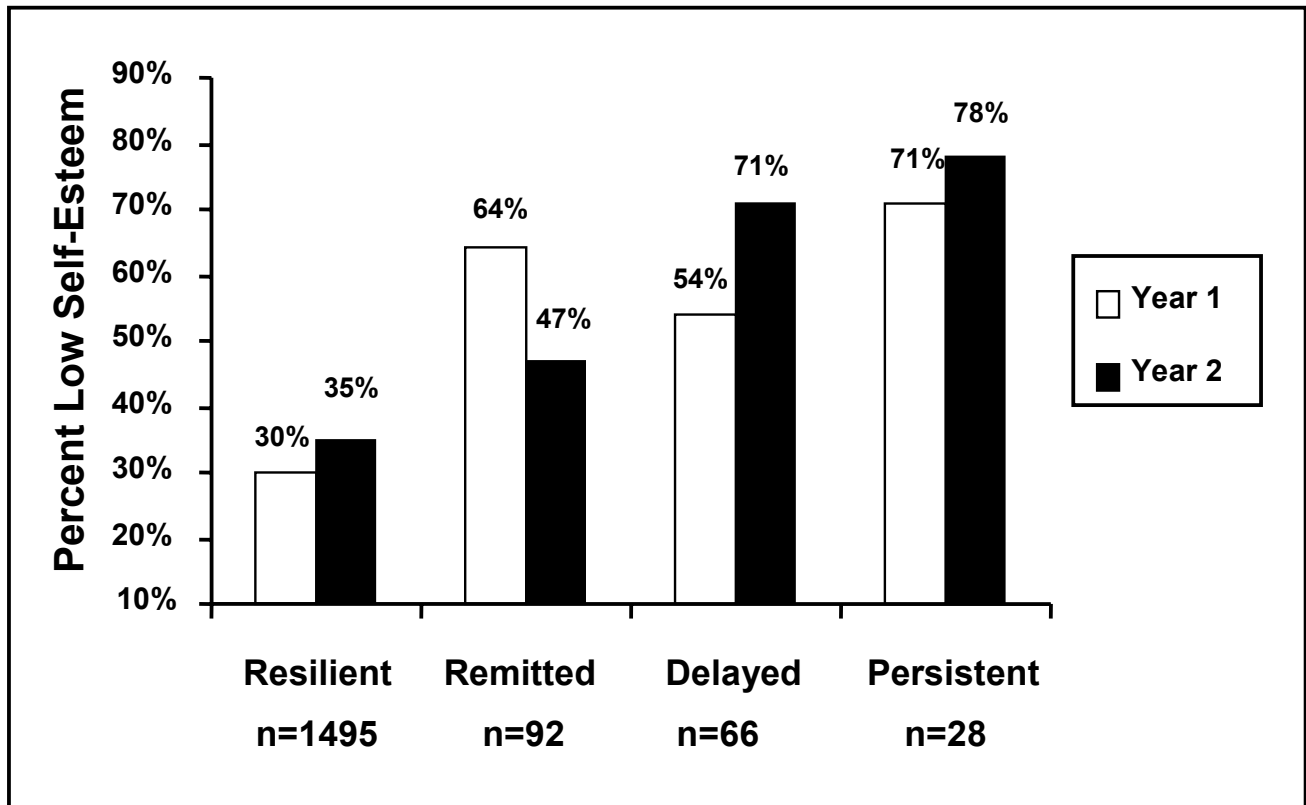
*PTSD groups were defined as follows: Resilient = no PTSD in year 1 or year 2; Remitted = PTSD in year 1 but not year 2; Delayed = no PTSD in year 1 but PTSD in year 2; Persist = PTSD in year 1 and year 2.

Figure adopted with permission from Lippincott Williams & Wilkins (copyright 2006): Adams, RE, Boscarino, JA. (2006). Predictors of PTSD and delayed-PTSD after disaster: The impact of exposure and psychosocial resources. *Journal of Nervous and Mental Disease, 195*, 485-493.

WTCD exposure. Posttraumatic stress disorder was not associated with alcohol use, once WTCD exposure and other covariates were controlled. In addition, we found that our alcohol abuse measures were positively associated with most adverse mental health measures, including PTSD, depression, anxiety, and poor functional health status (Adams, Boscarino, & Galea, 2006a).

Treatment Effectiveness

Conventional Interventions

As noted above, a central focus of our study was to use our prospective, population-based research design to evaluate intervention outcomes among those who obtained post-disaster mental health services, which were made widely available in NYC post-disaster (Felton, 2002). This basic pro-

spective evaluation design was used successfully in past mental health effectiveness studies (Bovasso, Eaton, & Armenian, 1999). To assess the effectiveness of various psychotherapy treatments, we identified individuals who either had PTSD or subsyndromal PTSD (Galea et al., 2003) at baseline and who were re-interviewed at follow-up ($n = 490$). Using a propensity score method (Rosenbaum & Rubin, 1983), we then matched cases that received different types of post-disaster interventions to comparable cases that did not. For these analyses we compared outcomes at follow-up for several standards of treatment that patients received (e.g., those receiving 3-6 psychotherapy sessions for 30 minutes or more post-disaster vs. those that did not, etc.).

The health outcomes examined included alcohol dependence, binge drinking, mental health symptoms, SF-12 physi-

cal and mental health status, and PTSD. For these analyses, propensity scores were used to match treated cases to untreated controls. These results, based on conditional logistic regression, suggested that conventional post-disaster interventions for traumatic stress exposures appeared to be ineffective. That is, participants in our study who received traditional psychotherapy at baseline were not less symptomatic based on our outcome measures at follow-up, compared to those individuals with baseline PTSD who did not receive these interventions. In fact, our results suggested, paradoxically, that the treated cases often had worse outcomes than the untreated cases. In addition, this treatment exposure revealed a negative dose-response effect, whereby the more treatment a patient received, the worse his or her mental health outcomes at follow-up. When we examined outcomes for all respondents, regardless of whether they met the case definition or not for PTSD or depression, these results were basically the same. *In other words, those who received psychotherapy, regardless of their level of psychological impairment at baseline, had worse outcomes at follow-up.* (Results available upon request.)

Brief Interventions

When we assessed the effects of brief emergency mental health counseling post-disaster, the results were different. Although there has been controversy associated with this modality (Gist & Devilly, 2002; Kaplan, Iancu & Bodner, 2001; van Emmerik, Kamphuis, Hulsbosch, & Emmelkamp, 2002), consistent with some reports (e.g., Basoglu, Salcioglu, Livanou, & Kalender, 2005), we found that brief post-disaster interventions significantly reduced mental health problems and symptoms up to two years after these interventions (Boscarino, Adams, & Figley, 2005; Boscarino, Adams, Foa, et al., 2006). In our study, about 10% of NYC adults reported receiving some type of crisis interventions conducted by mental health professionals within a year after the attacks (Table 3). Based on our sample, approximately 7% of NYC adults (~ 425,000 persons) reported receiving employer-sponsored, worksite crisis interventions related to the WTCD. These interventions were delivered at the worksite and were defined as a brief session related to coping with the World Trade Center disaster shortly after this event, directed by a mental health professional and arranged by area employers for their employees. Crisis interventions following traumatic events have been utilized for a number of years (Gist & Devilly, 2002; Kaplan, Iancu, & Bodner, 2001; van Emmerik et al., 2002).

However, the effectiveness and safety of these interventions have been challenged (Boscarino, Adams, Foa, et al., 2006; Gist & Devilly, 2002).

In the past, evaluation of these interventions has been hampered by limited research designs (Boscarino, Adams, Foa et al., 2006). The purpose of our recent study was to conduct a more advanced and focused analysis of preliminary findings reported elsewhere based on a multivariate covariate model (Boscarino, Adams, & Figley, 2005). Our initial analysis, which examined both mental health and alcohol abuse outcomes, suggested that those who attended 1-3 brief sessions had significantly better outcomes 2 years post-disaster (Boscarino, Adams, & Figley, 2005). Based on these initial findings we refined our analysis and expanded the number of covariates to control for potential bias and confounding. The latter was achieved through use of more advanced propensity score matching to assess the "average treatment" effect of worksite interventions (Boscarino, Adams, Foa, et al., 2006).

A description of the services received by employees at the worksite and the patient's rating of these services are shown in Table 4. The data for this analysis was based on a subset of 1,121 employed adults interviewed by telephone in our household WTCD survey at baseline and at follow-up. For the current study, we used propensity scores to match worksite intervention cases ($n = 150$) to worksite nonintervention controls ($n = 971$) using a 1:5 matching ratio based on a bias-corrected, nearest-neighbor algorithm (Boscarino, Adams, Foa, et al., 2006). Unlike more conventional mental health treatments, these worksite interventions appeared to be effective across a spectrum of outcomes, including reduced alcohol dependence, binge drinking, depression, PTSD severity, and reduced anxiety symptoms (Table 5; Boscarino, Adams, Foa, et al., 2006). While this propensity study had limitations, it suggested that brief post-disaster crisis interventions may be effective for employees following mass exposure to psychologically traumatic events. None of the other interventions that we studied came close to achieving these results. The reasons for the effectiveness of the brief worksite interventions were unclear and warrant further investigations. Other than for the outcome of alcohol dependence and binge drinking, those who received conventional therapy sessions tended to do worse after these interventions. In addition, the more conventional sessions they received, the worse they did in terms of PTSD, depression, anxiety, and global severity, a worrisome finding. As discussed

Table 3. Baseline Psychological Disorders and Mental Health Service Utilization
Following the World Trade Center Disaster in New York City (N = 2,368)

Outcomes	Unweighted N†	Weighted %	95%CI*
Mental Health Status			
PTSD Ever	284	8.15	6.87-9.42
PTSD since WTCD	196	5.25	4.23-6.26
Depression Ever	621	19.00	17.11-20.83
Depression since WTCD	416	11.76	10.29-13.22
Mental Health Visits			
Any Mental Health Treatment Visits Ever	1242	38.98	36.56-41.39
Any Mental Health Treatment Visits since WTCD	766	19.99	18.20-21.77
Any Mental Health Treatment Visits related to WTCD	547	12.88	11.51-14.25
Increased Mental Health Treatment Visits since WTCD	332	8.57	7.36-9.79
New Mental Health Treatment Visit since WTCD	189	5.28	4.32-6.25

*CI = Confidence interval; WTCD = World Trade Center Disaster.
† All N's are unweighted. Percentages and confidence intervals shown represent the weighted data (i.e., adjustments to the sample for the number of telephone lines and adults in the household, the treatment over-sample, and survey stratification).

For additional information, see: Boscarino, JA, Adams, RE, Figley, CR. (2004). Mental health service use 1-year after the World Trade Center disaster: Implications for medical care. *General Hospital Psychiatry, 26*, 346-358.

Table 4. Descriptive Statistics for Brief Intervention Exposures in Baseline Survey (*N* = 2,368)*

Intervention Characteristics	% (Weighted)	95% CI	N (Unweighted)
Number of Brief Crisis Sessions			
None	89.9	88.4-91.3	2012
One	4.4	3.4-5.6	123
Two to Three	3.6	2.9-4.5	134
Four or more	2.1	1.7-2.8	89
Percent any Brief Crisis Sessions	10.2	8.9-11.8	356
Number of Brief Crisis Sessions at Worksite			
None	93.5	92.4-94.5	2124
One	3.4	2.6-4.4	103
Two to Three	2.3	1.8-2.8	99
Four or more	0.9	0.6-1.3	42
Percent any Brief Crisis Sessions at Worksite	6.5	5.5-7.6	244
Content of Brief Sessions, among those having any sessions (*n* = 356)			
Educated about Stress Symptoms	63.7	56.2-70.7	244
Talked about Experiences	62.9	55.0-70.1	264
Taught to Cope with Things	65.1	57.8-71.7	246
Taught to Think Positively	64.1	56.8-70.8	238
Taught to Evaluate Thoughts	57.7	50.4-64.6	206
Taught to Deal with Emotions	69.1	61.8-75.5	255
Taught to Relax	65.9	58.6-72.4	245
Reported Helpfulness of Crisis Intervention Sessions, among those having any sessions (*n*=356)			
Not at All Helpful	17.7	12.0-25.4	47
Helped a Little	24.5	18.9-31.1	84
Helped Some	25.4	20.2-31.6	101
Helped a Lot	32.4	26.0-39.5	124

*All N's are unweighted. Percentages and confidence intervals shown represent the weighted data (i.e., adjustments to the sample for the number of telephone lines and adults in the household, the treatment over-sample, and survey stratification). CI = Confidence interval; WTCD = World Trade Center Disaster.

Table adopted with permission from Lippincott Williams & Wilkins (copyright 2006): Boscarino, JA, Adams, RE, Foa, EB, Landrigan, PJ. (2006). A propensity score analysis of brief worksite crisis interventions after the World Trade Center disaster: Implications for intervention and research. *Medical Care, 44*, 454-462.

Table 5. Summary Results for Brief Worksite Interventions for 7 Outcomes at Follow-up*

	PTSD Diagnosis	Depression Diagnosis	Alcohol Dependence	Binge Drinking	Mean PTSD Symptom Level	Mean Depression Symptom Level	Mean Anxiety Symptom Level
Significance level	NS	$p < .05$	$p < .01$	$p < .05$	$p < .05$	$p < .05$	$p < .10$
Impact of treatment vs. no treatment**	-	7.2%	4.8%	5.5%	.8	1.8	1.4

*For additional information, see: Boscarino, JA, Adams, RE, Foa, EB, Landrigan, PJ. (2006). A propensity score analysis of brief worksite crisis interventions after the World Trade Center disaster: Implications for intervention and research. *Medical Care, 44*, 454-462.

**As an example of the brief treatment outcome impact, the results for depression suggest that the prevalence of depression was about 7% lower among treated cases at follow-up compared to matched untreated cases. Likewise, treated cases had lower mean depression symptom scores by about 2 points compared to matched untreated cases.

previously, our study included extensive risk factor data (see Table 1); we used these data to "risk adjust" our treatment models. For conventional treatments, this risk adjustment made little difference.

CONCLUSION

As noted, following exposure to the WTCD, the majority of individuals exposed to these events generally did not seek mental health treatment, even though some clearly experienced mental problems (Boscarino, Adams, Stuber, et al., 2005). In addition, some persons experienced delayed mental health problems two years after the initial exposure (Adams & Boscarino, 2006). Our main study objective was to undertake analyses that could provide insight related to the impact of treatment-seeking and the onset of mental health problems following a major traumatic event exposure — information that could inform health professionals about the consequences of exposure to psychological trauma and the impact of treatment interventions following such events. Our study's main findings are as follows:

- Generally, those who sought mental health treatment after the WTCD tended to be individuals who sought treatment *before* this event. They also tended to be individuals highly exposed to the WTCD event. Con-

versely, symptomatic individuals who did not seek treatment tended to be members of minority groups, did not have health insurance coverage, and tended to have sought informal support from friends and neighbors.

- Those who experienced "delayed" PTSD after the WTCD event (i.e., no PTSD at baseline, but PTSD at follow-up), tended to be Hispanic, non-native born, to have recently experienced lower self-esteem and/or negative life events. Contrary to expectations, the degree of WTCD exposure did not predict delayed PTSD. Persistent PTSD cases (i.e., had PTSD at baseline and at follow-up) were similar to delayed cases, except that these cases had higher exposure to the WTCD events and they had a history of mental health disorders *before* the WTCD event.

- The outcomes of mental health treatment after the WTCD attack and what types of interventions were the most beneficial were a major focus of our research. Our findings suggested that early brief interventions at the worksite were the most effective post-disaster treatment. In addition, informal support seeking from friends, neighbors, and from spiritual communities also appeared beneficial. Conversely, those who received more extensive post-disaster interventions

(e.g., formal psychotherapy sessions for 30 minutes or more) did not benefit and, in fact, they appeared to have worse outcomes. The reasons for the latter finding were unclear, since we controlled for an extensive number of risk factors in these analysis, presumably controlling for selection bias and confounding.

- In terms of those who were the most resilient to mental health problems following the WTCD event, they tended to be males, older persons, those with higher self-esteem and stronger social support. They also tended to be persons *without* a history of mental health problems *before* the WTCD event. Finally, they tended to be persons with fewer lifetime traumatic events and those with fewer stressful life events in the past year.

- Our study suggests that exposure to psychological trauma is associated with increases in problem drinking and alcohol abuse long after exposure and that these substance use outcomes tend to be associated with other adverse mental health outcomes post-exposure.

RECOMMENDATIONS

Based on our study findings, our recommendations for future post-trauma research include the following:

- Additional research is needed related to why receiving brief post-disaster treatment interventions were effective.

- Conversely, research is needed to confirm that those who received conventional post-disaster treatments actually did worse, and if so, why this may have been the case.

- Additional research is needed to determine why clearly symptomatic members of minority groups tended not to seek post-disaster treatment. For example, was this because of differences in perceived stigma, because of informal or alternative treatment-seeking, or some other reason?

- Further research is needed to determine the effectiveness and nature of informal social support and alternative interventions in protecting individuals from post-disaster mental health problems.

- Research is recommended related to factors that affect post-disaster resiliency. For example, persons with higher self-esteem post-disaster tended to be protected from future mental health problems. Some research questions are: Why were these persons protected from mental health problems? Should self-esteem be a focus of post-event interventions in the future? In the past, post-disaster interventions have usually focused on psychopathology, rather than on wellness and positive psychological factors. Our research suggests that this clinical focus might be misplaced.

- Our study suggests that exposure to psychological trauma may be associated with increases in problem drinking and alcohol abuse after these exposures and deserves further investigation.

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Secondary Trauma

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Abstract: *A review of secondary trauma is presented. Secondary trauma involves the transfer and acquisition of negative affective and dysfunctional cognitive states due to prolonged and extended contact with others, such as family members, who have been traumatized. As such, secondary trauma refers to a spread of trauma from the victim to those who have close contact with the traumatized individual. It is claimed by some that exposure to intense video presentations of traumatic events can also lead to secondary traumatization. Assessment devices are reviewed and most of these appear to be designed to assess secondary or vicarious traumatization in therapists rather than in the general population. Most scales lack cutoff scores and this is a significant weakness. The modified Stroop procedure is presented as a non-paper and pencil method of assessing secondary trauma reactions. The evaluation of the efficacy of therapeutic interventions for secondary traumatization is virtually non-existent. Systematic studies of secondary trauma are in their infancy and a good deal of further research is needed. [International Journal of Emergency Mental Health, 2008, 10(4), pp. 291-298].*

Key words: *secondary trauma, vicarious trauma, secondary traumatization, Stroop procedure, observational learning*

The term, *secondary trauma*, refers to the experience of negative psychological states which typically result from extended and close contact with others who have been traumatized. Those experiencing secondary trauma have not directly experienced a traumatic event but have acquired trauma symptoms vicariously, often through contact with trauma victims (Figley, 1995; McCann & Pearlman, 1990). One might conceive of secondary trauma as a "spread of effect" of trauma from the impacted person or situation to those who have close involvement with the traumatized person. Hearing about or witnessing trauma situations, and an inclination to identify with those in the trauma situation, can also result in secondary trauma reactions, especially if these vicarious experiences evoke fear reactions in the witness (e.g., Marshall & Galea, 2004; Propper, Stickgold, Keeley, & Christman, 2007). The range of secondary trauma symptoms can include anger, anxiety, depression, low self-esteem, emotional exhaustion, difficulty concentrating, body aches, sleep problems, changes in eating habits, increase in addictive behaviors, and withdrawal from others. It should be noted that the study of secondary trauma is in its infancy and therefore well grounded empirical studies in this area are scant when compared to the related area of PTSD.

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Secondary trauma and vicarious trauma are terms that have been used in somewhat different contexts. Secondary trauma, or secondary traumatic stress, are terms that parallel diagnostic categories that are presented for posttraumatic stress disorder (PTSD) and acute stress disorder in the *Diagnostic and Statistical Manual(4th ed.)* of the American Psychiatric Association (APA, 2004). *Vicarious trauma* refers more specifically to the cognitive schemas and core beliefs that are often altered when, for example, therapists have extensive contact with clients who have undergone traumatic experiences. In vicarious traumatization the focus is the alteration of one's cognitions and basic life assumptions such as beliefs in environmental stability, safety, and a secure sense of self. However, it is increasingly recognized that vicarious trauma and secondary trauma are not entirely distinct concepts (Bober & Regehr, 2006; Jenkins & Baird, 2002) in that they both involve the transfer of trauma symptoms to others. For this reason the terms "secondary trauma" and "vicarious trauma" will be used synonymously in this review. The overarching issue between the terms is the disturbance of one's emotions and/or cognitions as a result of experiencing the impact of trauma on others.

Areas of Investigation

In one of the first documented investigations of secondary trauma, Rosenheck and Nathan (1985) presented a case history of a 10-year-old son of a Vietnam veteran. This child had an unusually intense involvement in his father's emotional life and experienced high levels of guilt, anxiety, and aggressiveness, and a morbid preoccupation with traumatic events that his father had encountered. In another study, Parsons, Kehle, and Owen (1990) compared Vietnam combat veterans with PTSD to Vietnam-era veterans without PTSD on their ratings of their children's social and emotional functioning. Overall, veterans with PTSD perceived their children as having substantially greater social and emotional difficulties, marked by an inability to initiate and maintain relationships. It was also found that children of PTSD veterans were significantly more likely to demonstrate a lack of self-control resulting in more aggressive, hyperactive, and delinquent behaviors.

There are a number of other situations in which secondary traumatization can occur. It has been reported to take place in families living with a traumatized family member (Catherall, 1992), in partners of those who have been sexually abused (Nelson & Wampler, 2000), in wives of combat veter-

ans with PTSD (Waysman, Milkulincer, Solomon, & Weisenberg, 1993), in children of Vietnam veterans (Motta, Joseph, Rose, Suozzi, & Leiderman, 1997; Suozzi & Motta, 2004), in wives of police officers (Dwyer, 2005), in Holocaust survivors through intergenerational transfer of symptoms (Kassai & Motta, 2006; Kellerman, 2001), and in family members of those with a serious illness (Boyer et al., 2002; Libov, Nevid, Pelcovitz, & Carmony, 2002; Lombardo, 2005).

Therapists and Secondary Trauma

There are also numerous studies documenting secondary trauma reactions among therapists working with individuals who have been traumatized (e.g. Brady, Guy, Polestra, & Fletcher-Brokaw, 1999; Figley, 1995; Ghahamanolou & Broadback, 2000; McCann & Pearlman, 1990; Pearlman & MacIan, 1995; Schauben & Frazier, 1995). Research suggests that exposure to patient reports of traumatic experiences can have a negative effect on therapists' cognitive schemas and emotional functioning. In this instance, cognitive schemas refer to beliefs, assumptions, and expectations as they relate to one's self-view and one's beliefs about the world (McCann & Pearlman, 1990). Previously held views of one's self and one's environment may be shaken or altered by trauma exposure or by on-going interaction with traumatized individuals. For example, one's view of the environment as being relatively safe and predictable may be altered to a more negative view in which the environment is perceived as threatening. Similarly one's self-view might be shifted from that of an assured, stable self-perception toward a more vulnerable and fragile perspective following on-going exposure to traumatized individuals. Pearlman and Saakvitne (1995) view vicarious traumatization as a process whereby the therapist's self view is transformed through empathic exposure to the victim's trauma. These changes can lead to alteration in one's identity, how one views the world, and one's feeling of personal safety and trust. McCann and Pearlman state that vicarious traumatization in therapists occurs because "therapists may experience painful images and emotions associated with their client's traumatic memories and may, over time, incorporate these memories into their own memory systems. As a result, therapists may find themselves experiencing PTSD symptoms including intrusive thoughts or images and painful emotional reactions" (1990, p. 144).

Vicarious traumatization can also be viewed as a side effect or occupational hazard of working with trauma victims.

Figley (1995, p.1) notes that "there is a cost to caring" and uses the term *compassion fatigue* to describe the cumulative stress incurred by the constant giving of one's self in an effort to help others. Increasingly, mental health professionals are being called upon to treat survivors of violent crime, terrorism, natural disasters, childhood abuse, torture, and war-trauma victims. Therapists may experience symptoms similar to their clients' and these can result in changes in their occupational and personal relationships. Boscarino, Figley, and Adams (2004) found extensive compassion fatigue among social workers who were involved in helping those exposed to the September 11, 2001 terrorist attack in New York City. *Empathy* and *emotional contagion* are also terms that have been used to explain vicarious traumatization. In a therapeutic relationship, empathy may be viewed as the ability to understand the client's experience of being traumatized. According to Pearlman and MacIan (1995) vicarious traumatization occurs through empathic engagement with clients' trauma material. Similarly, emotional contagion involves the experiencing of another person's distress, but on an unconscious level. For example, a therapist observes and interacts with a trauma victim and feels parallel emotions, but has no conscious awareness of the relationship between his or her feelings and those of the patient (Figley, 1995). The above studies (e.g. Figley, 1995; Pearlman & MacIan, 1995) highlight the conditions under which secondary trauma might occur, but it remains unclear as to why many experience this condition.

Hypothesized Mechanisms of Action

It would appear that exposure to traumatized individuals and situations can alter one's perceptions of the self and one's milieu through an alteration of cognitive schemata, and also negatively impact one's emotional status. In addition to the disruption of one's cognitive schemas through therapeutic work, secondary trauma might also be transmitted directly through observational learning as explained by Bandura's (1967) social learning theory.

In the social learning view, one need not alter one's cognitive schemata in order for secondary trauma to occur. Rather, social learning theory posits that simply observing the behavior of another can alter one's perception of events. A cognitive processing component, whether conscious or not, is not a requirement for learning to occur according to social learning theorists. Perhaps the best example of this can be found in the functioning of primates. Rhesus monkeys ob-

serving fear reactions in other monkeys will acquire those fear reactions. This might be analogous to the situation where a therapist can acquire the anxieties of patients. What is even more surprising than the occurrence of this direct observational learning process among primates is the fact that rhesus monkeys will acquire fear reactions of monkeys displayed on videotape (Mineka & Zinbarg, 2006). The fact that monkeys acquire fear reactions by viewing videotaped material has implications regarding the degree to which humans acquire fear reactions by watching television. In fact, Singer, Flannery, Guo, Miller, and Leibbrandi (2004) found that while there were many contributing factors to childhood trauma, exposure to violent material on television was an important element.

Trauma exposure by way of television is considered to be one way in which secondary traumatization can occur, i.e. the acquisition of trauma responses through exposure to the trauma and violence occurring among others, as viewed on television (Marshall & Galea, 2004; Propper, Stickgold, Keeley, & Christman, 2007). A question might be asked as to why we are so sensitive to acquiring the trauma reactions of others who have been traumatized? It is possible that the ability to become affected or traumatized by experiencing the trauma of others has survival value and we are therefore genetically predisposed to developing these reactions. We are genetically programmed to be social beings and thus we are affected by the concerns of the members of our society (Cacioppo & Patrick, 2008). Historically, our ancient ancestors who were unaffected by the trauma experience of others may have been less capable of adapting to life threatening situations and therefore their survival prospects might have been compromised (e.g., Dawkins, 1976). The increased danger and threat to our ancestors who were unable to react to the trauma of others would be expected to lower their survival chances. Dawkins might take the position that the genes underlying secondary trauma would eventually become dominant among our ancestral survivors and we, the carriers of those genes, would become more abundant than those not carrying the dominant genes. It is possible that individuals not carrying the genetic predisposition to acquiring secondary trauma reactions would have had lower survival prospects and therefore would be less likely to become our progenitors.

Scales for Assessing Secondary Trauma

Assessment of secondary trauma has been problematic because its effects are often less severe and consequently

more difficult to detect than those seen in primary trauma and PTSD. With the exception of research studies using a modified Stroop procedure, to be described below, virtually all assessment devices for secondary trauma have relied on paper and pencil measures or interviews and are subject to measurement and interpretation errors. Another difficulty in secondary trauma research is the relative lack of psychometrically sound measuring instruments for assessing this phenomenon, in comparison to the relative abundance of measures that assess the primary traumatic experience of PTSD. While the Secondary Trauma Scale (STS; Motta, Hafeez, Sciancalepore, & Diaz, 2001) presents cutoff scores, all other measures of secondary trauma lack these cutoffs and so one's scores on the measures do not tell the researcher or clinician whether or not the individual being evaluated has a significant problem.

Figley, for example, developed the Compassion Fatigue Self-Test for Psychotherapists (CFST; Figley 1995). This scale is used specifically for mental health workers and although it lacks cutoff scores that would be indicative of emotionally troubled or pathological reactions, it has had wide usage and is well regarded. Similarly, Bride, Robinson, Yegidis, and Figley (2003) developed a 17-item Secondary Traumatic Stress Scale (STSS), which measures intrusion, avoidance, and arousal symptoms associated with the stress of professional relationship between social work practitioners and traumatized clients. The scale shows strong psychometric characteristics but, like the CFST, does not have cutoff scores and is designed primarily for therapists. The same can be said for the Traumatic Stress Institute Belief Scale (TSI; Pearlman 1996) which measures disruption of beliefs of safety, trust, esteem, intimacy, and control among mental health professionals. A significant issue is that, except for the STS, the above noted scales have been designed with the clinician in mind. The scales assess the extent to which clinicians working with traumatized patients are negatively impacted during the therapeutic process.

Unlike the other measures noted in this section which deal primarily with therapists' reactions to their clients, the Secondary Trauma Scale (STS; Motta et al., 2001) has been validated with samples involving members of the community, students, and practicing therapists. The STS has a test-re-test reliability of .87 for a one to two week interval, an alpha reliability of .89, and demonstrates sound concurrent and discriminant validity. There are 18 items that are rated on a five-point scale and so the range of scores is from 18 to 90.

Scores at or above 38 on the STS are suggestive of mild to moderate anxiety; scores of 45 or higher are indicative of moderate to severe anxiety. Similarly, scores of 38 or higher are associated with mild to moderate depression, while scores of 49 and higher can be indicative of moderate to severe depression (Motta, Newman, Lombardo, & Silverman, 2004). The availability of cutoff scores can be helpful to both the clinician and researcher in their efforts to better understand the nature and impact of secondary traumatization. When one's score on the STS is high, that person is likely to be experiencing significant emotional upset.

Secondary Trauma Assessment and the Stroop Procedure

As mentioned earlier, modifications of the Stroop procedure (Stroop, 1935) have also been used to assess secondary trauma. Specifically, a variant of the Stroop procedure sometimes referred to as the *modified Stroop* or *emotional Stroop*, has been employed for this purpose. The standard Stroop procedure involves a series of color words such as RED, GREEN, YELLOW, etc. These words are printed in colors such that the color and the word do not agree with each other. The word RED, for example, might be printed in the color green. Researchers note that participants take longer to name the color of the word, when the underlying word meaning and the word color don't agree with each other. When the word and the color in which it is printed do coincide, the time required to name the color of the word is lessened. The delay in color naming, when word meaning and word color do not coincide, is said to occur because of the cognitive and perceptual interference caused by the dissimilarity of word and color and is appropriately referred to as the Stroop *interference effect*.

The modified or emotional Stroop procedure has been used to assess emotional concerns, such as affective difficulties related to war experiences. Here, war related words such as COMBAT, WEAPON, BLAST, etc. are printed in colors and the participant's task is to name the colors in which the words are printed, but not read the words themselves. Words that have emotional significance, as would the above words to a combat veteran, take longer to color name than neutral words (CHAIR, CAR, PAINT, etc.) or positive words (HAPPY, PLEASED, CONTENT, etc). Similarly non-combatants name the colors of the combat words faster than those who have experienced combat because the words have less emotional significance to them. This procedure

has been used to evaluate response delays due to emotional concerns related to war, rape, PTSD, interpersonal violence, and other traumas and sources of emotional distress (e.g., Foa, Feske, Murdock, Kozac, & McCArthy, 1991; McNally, Kaspi, Riemann, & Zeitlin, 1990). The Stroop's usage in assessing secondary trauma has been limited but, nevertheless, useful.

In a study of secondary trauma, adult children of war veterans and those of non-veterans named the colors in which war related words were printed (Motta et al., 1997). Participants also completed a series of standardized measures related to in impact of war experience. A statistically significant difference in color- naming time between the children of veterans and non-veterans was found only on the Stroop stimulus card containing war related words. There were other cards involving neutral, positive, and cleanliness-related stimuli in addition to the standardized measures. These other measures did not show differences between children of veterans and children of non-veterans. This initial study suggested that the Stroop procedure involving words relevant to emotional concerns could be successfully used to assess secondary trauma. It also revealed that the modified Stroop procedure was able to detect secondary trauma effects while standard measures were not able to do so.

A related study of secondary traumatization using the Stroop was conducted (Suozzi & Motta, 2004). This study systematically investigated the relationship between intensity of Vietnam combat exposure and the transfer of trauma symptoms to adult children of veterans. It was thus specifically designed to assess secondary traumatization effects due to combat. Forty male combat veterans who comprised high and low combat intensity groups were administered a series of measures designed to assess PTSD, depression, anxiety, intrusive thoughts, and avoidance responses. Veterans also completed an emotional Stroop procedure involving combat relevant and non-relevant stimuli. Offspring of veterans (n = 53) completed similar measures. It was found that affective responses of the offspring were impacted by level of combat intensity of their fathers. The most pronounced effects occurred on the emotional Stroop stimulus card involving war-related words, where children of high combat veterans showed the longest Stroop response latencies. Results of this study supported the Stroop paradigm as a research tool for investigating secondary trauma in parent-child dyads.

The value of the modified or emotional Stroop procedure is that it presents an objective methodology for assessing secondary trauma. It is a highly sensitive procedure in that it will often pick up differences between secondary trauma groups where standardized measures will not. The procedure has two apparent drawbacks. First, it is necessary to use stimulus words that are relevant to the particular area of trauma, whether it be rape, war, combat exposure, interpersonal violence, etc. This can be cumbersome and time consuming during initial stages of development of the relevant stimuli. Second, while the procedure does provide reliable and replicable outcomes, it, like many other measures of secondary trauma, lacks cutoff scores and therefore has inherent limitations.

Perhaps the real strength of the modified Stroop procedure is that it provides a means of validating the existence of secondary trauma reactions without a reliance on self-report. The data derived from the Stroop are simple response latency measures and as such are far less influenced by one's perceptions and beliefs than are the paper and pencil measures. The Stroop appears to be relatively impervious to social desirability influences as participants are characteristically unfamiliar with what constitutes an adaptive or maladaptive response; this adds to its utility for both practice and research purposes.

Interventions for Secondary Trauma

There are virtually no agreed upon treatments that are specifically targeted for treating secondary traumatization. Generally, when treatments are attempted, they tend to follow those typically seen for treating PTSD. Thus, one sees a variety of interventions from re-exposure to trauma stimuli, pharmacotherapy aimed at reducing anxiety and depression, psychotherapy, peer participation, family therapy, etc. Elements of treatment involve establishing a therapeutic alliance, providing education, managing anxiety, facilitating re-experiencing, and integration of the trauma experiences. Exposure therapy has been used for at least the past two decades and is one of the more common ways of treating PTSD. It is assumed that it might also be useful in treating secondary trauma, although there are virtually no empirical studies in this area. Exposure therapy involves re-experiencing (for example, through verbal recounting, the use of imagery, or through other techniques such as virtual reality procedures) and re-processing traumatic material in a graded,

controlled fashion and within the safe confines of the therapist's office or clinical setting. The vast majority of cognitive-behavioral interventions for dealing with PTSD and acute trauma reactions involve some form of re-exposure to, and re-experiencing of, formerly traumatizing events (e.g., Lyons 1987; Saigh, 1987). Therefore the assumption has been that a similar process might be of value for those suffering from secondary traumatization. As stated earlier, there are virtually no controlled and validated studies in this area.

It is important to determine effective interventions for treating of mental health professionals because there are high rates of burnout and turnover in therapists working in outpatient and inpatient settings where trauma victims are seen (Kottler, 1993). The question arises as to what can be done to protect therapists from secondary traumatization within these environments. According to Killian (2008), social support is the most significant factor in protecting against treatment-induced psychological strain and enhancing employment satisfaction. "Maintaining peer contact and consultation provides an opportunity to share how one's work and personal life interact and affect each other, to examine what areas of one's life have been disrupted by this work, and to reality test by stepping back and assessing how much the work has increased one's cynicism or alienation" (p. 40).

A number of factors have been associated with increasing levels of secondary traumatization in therapists. These include the number of cases typically seen, whether the therapist has their own work space, the degree of control the therapist has over such issues as how many days are worked and how many cases are seen, and whether or not the therapist has experienced personal traumas (Jenkins & Baird, 2002). Those who see many cases and have little control over their schedules are more likely to develop secondary trauma. Killian (2008) suggests that agencies should take on the responsibility of modifying the variables that produce work stress and compassion fatigue in therapists rather than placing the onus of responsibility on therapists to take care of these matters themselves. Such an approach is proactive and attempts to prevent problems rather than allowing them to develop and then devising strategies for dealing with them.

Bober and Regehr (2006) found that while therapists agreed that having more time for leisure activity, social interactions, and other self-care activities such as exercise and hobbies, would be helpful in reducing their stress, they did not necessarily pursue these activities for themselves. They seemed much better at advising others to engage in these activities than in following their own advice. However, a qualitative study by Killian (2008) did not find significant correlations between the use of these various coping strategies and the reduction of secondary traumatization, but did find that reducing hours worked per week, having control over ones work environment and schedule, and social support were effective in reducing secondary trauma. Phipps and Mitchell (2003) suggest that interventions for secondary trauma should include components that involve social support, normalization of the therapists' experiences, and the provision of some of the self-help strategies noted above. Similarly, Munroe and colleagues (2003) stress the importance of professional social support with an emphasis on advising therapists to pursue personal self-care strategies. Clearly, this is an area much in need of additional research as there are virtually no systematic studies with regard to the treatment of secondary traumatization among therapists or non-therapists.

Summary

Recent research and clinical observation shows that traumatic experiences have a contagious nature to them. The impact of trauma is experienced not only by the victims of trauma but also spreads to those who have close contact with the victims. It also spreads to those who strongly identify with trauma victims and who might be repeatedly exposed to trauma through video or TV. The fact that fears can be acquired through observation has been seen at both the human and at the primate level; this suggests that we may be genetically "hard-wired" to acquiring secondary trauma reactions through vicarious exposure.

There is comparatively little research on secondary trauma measurement; the majority of the assessment devices that do exist tend to be designed for therapists and not for the general population. There is no systematic and controlled research focusing upon an evaluation of various therapeutic interventions for secondary trauma. These are areas that are much in need of further study. It is unfortunate that we, and especially the younger generation, are increasingly exposed to traumatic events such as terrorism on television. The existence of a "video generation" as we have today all but assures that terrorist acts, and other forms of trauma, will have an increasingly wider negative impact, particularly on the young. A good deal of additional research is needed in areas such as the nature of secondary trauma, the underlying process by which it spreads to others, and its assessment

and treatment. Research on treatment is particularly needed as there are no systematic, comparative studies in this area. Nevertheless, it is gratifying to see that secondary traumatization is increasingly recognized as a real phenomenon. This will doubtlessly lead to further research and the growth of our knowledge in this important area.

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Police Suicide Research: Conflict and Consensus

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Abstract: *Despite new frontiers in suicide research over the past ten years, police suicide remains a difficult, persistent, and controversial problem. Controversy appears to focus on the accuracy and validity of police suicide rates, but other controversies exist as well. This is likely due to studies that are methodologically flawed, incomplete, or specific to limited geographic areas. The objective of this paper is to review issues related to both conflicts and consensus on police suicide. [International Journal of Emergency Mental Health, 2008, 10(4), pp. 299-308].*

Key words: *police suicide, occupational suicide, suicide rates*

POLICE SUICIDE RESEARCH: CONFLICT AND CONSENSUS

Considerable research has been done over the past ten years on suicide in police work. Despite new frontiers in suicide research, police suicide remains a difficult, persistent, and controversial problem. The volume of literature on this topic has rendered it to closer scrutiny more than other occupational groups. The majority of controversy appears to focus on the accuracy and validity of police suicide rates, but other controversies exist as well. This is likely due to studies that are methodologically flawed, incomplete, or not generalizable to wide geographic areas. The goal of this paper is to review some of the conflicts and consensus on police suicide research. It should be noted that the problem of suicide rate inconsistency does not only exist in police work, but also in the general population.

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Conflict

Kappeler, Blumberg, and Potter (1993) argued that the connection between police stress and suicide is a myth which perpetuates public perception of "battered and blue crime-fighters." Other researchers have attributed police suicide more to the facts that (1) the police occupation is male dominated and statistically males commit suicide more often than females, and (2) officers have a readily available, lethal method with which to commit suicide (Alpert and Dunham, 1988).

Aamodt and Stalnaker (2001) suggested that, although the suicide rate of 18.1/100,000 for law enforcement personnel is higher than the 11.4/100,000 in the general population, it is not higher than would be expected for people of similar age, race, and gender. Thus any difference between law enforcement rates and rates in the general population can be adequately explained by the race, gender, and age of people who enter the law enforcement field. This is an important point because it suggests that speculation about such factors as job stress and the availability of weapons are not factors that are exclusively associated with law enforcement

suicide. The authors conclude that allocating mental health resources to law enforcement personnel at the expense of other professions does not appear justified. Furthermore, the reasons that officers commit suicide are similar to those of the general population with the possible exception of legal problems.

Hem, Berg, and Ekeberg (2002) published a systematic critical review of suicide among police. They identified 41 original studies from North America, Europe, and Australia. The results indicated that some studies found elevated suicide rates among police officers; others showed an average or low rate of suicide. However, the rates varied widely and were inconsistent and inconclusive. Most studies were conducted in limited specific police populations, where local and regional variations in suicide can affect the rates of police suicide. Moreover, the reason for studying police suicide in a specific region may be due to a suicide cluster.

Loo (2003) conducted a meta-analysis of police suicide rates and ratios using 101 samples from the literature. Large effect sizes showed that suicide rates based on short time frames were significantly higher than for long time frames. There were regional differences such that rates in the Americas and Europe were higher than in the Caribbean and Asian regions. There were differences in rates between federal, regional, and municipal police forces. Loo concludes that researchers need to include the use of longer time frames when studying police suicide and include controls for year of suicide, gender, ethnic groups, and rates for population comparison groups.

Marzuk, Nock, Leon, Portera, and Tardiff (2002) conducted a study on New York City police officer suicide. Marzuk and colleagues concluded that the suicide rates for New York City police officers were below that of the adjusted New York population. Among the 668 deaths of police officers from 1977 to 1996, 80 were certified suicides (mean age = 33.5 years). Firearms were used in 93.8% of these suicides; other methods included hanging, carbon monoxide poisoning, and falling from a height. The overall suicide rate among police officers during the period was 14.9 per 100,000 person-years (95% *CI* = 11.9–18.6), compared with the demographically adjusted suicide rate for the New York City population (18.3 per 100,000 person-years, 95% *CI* = 18.0–18.6). The suicide rate for the upper end of the range, which included the 80 police officer suicides plus 22 additional deaths by methods usually seen in suicides, was 19.0 per 100,000 person-years (95% *CI* = 15.5–23.1). Marzuk and colleagues (2002) added that although the

annual suicide rates varied, there were no evident trends. For 17 of the 20 years examined, the police officer suicide rate remained below that of the demographically adjusted rate of the New York City population

Earlier studies have also found a police suicide rate similar to or lower than the general population. Dash and Reiser (1978) found Los Angeles police officers to have a seven-year average suicide rate of 8.1/100,000 compared to a 12.6/100,00 rate nationally. A twelve-year follow-up study by Josephson and Reiser (1990) of the same department found an average suicide rate of 12/100,000 among police compared to 13.4 /100,000 in Los Angeles and 14.8/100,000 in the state of California. Although police suicides were lower than other geographic rates, these authors also found that the incidence of suicide in the Los Angeles Police Department increased from 8.1/100,000 in 1976 to 12/100,000 in 1988.

Stack and Kelley (1994) completed an analysis of police suicide data from the 1985 National Mortality Detail File. Statistically controlling for age, gender, and race, these authors found the police suicide proportional mortality ratio (PMR) rate to exceed the rate of matched controls by 8%. This rate was not significantly higher than the rate among white males in the general population.

Burnett, Boxer, and Swanson (1992) conducted a case-control study on suicide death certificate data from 26 states. After adjusting for age, marital, and socioeconomic status, they found that police officers did have an increased risk of suicide (1.3 fold risk) over population controls, but not a higher risk than some other professions. Examples were: pharmacists (3.3 fold risk), physicians (2.8 fold risk), lawyers (2.1 fold risk) and dentists (1.8 fold risk).

Consensus

One would expect that the police suicide rates should be lower than they are, given that they are an employed, healthy, and psychologically tested group, and fall into the category of a "healthy worker" group (McMichael, 1976). Certainly, they should be lower than the U.S. general population, given that this reference group includes the institutionalized, mentally ill, and unemployed.

Substantial epidemiological evidence suggests that there is an elevated rate of suicide within law enforcement. An early national occupational study by 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. A mortality study of police officers in Rome, Italy found the suicide ratio among male police officers to be 1.97 times as high as the general male Italian population (Forastiere et al., 1994). 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.

Darragh (1991) conducted an epidemiological analysis on factors based on 558 consecutive cases of self-inflicted death in the United Kingdom, which revealed a dramatic increase in suicide among security force personnel. Helmkamp (1996), in a study of suicide among males in the US Armed Forces, found military security and law enforcement specialists had a significant increased rate ratio for suicide. 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 suicides were male officers (92%). Cantor, Tyman, and Slatter (1999) 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 four-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.

Other factors associated with increased rates of suicide have been examined in police work. Rothmann and Strijdom (2002) found suicide ideation in South African Police to be associated with a sense of incoherence. Officers were unable to perceive traumatic police work exposures as manageable. They did not feel that they had the resources available, either personally or organizationally, to meet the demands imposed upon them by their difficult work. Berg, Hem, Lau, Loeb, and Ekeberg (2003) in a nationwide study on suicide ideation and attempts among 3272 Norwegian police, found that 24% felt that life was not worth living, 6.4% seriously considered suicide, and 0.7% attempted suicide. Serious suicide ideation was mainly attributed to personal and family problems. Violanti (2004) found that certain traumatic police work exposures increased the risk of having a high level of posttraumatic stress disorder (PTSD) symptoms, which subsequently increased the risk of alcohol use and suicide ideation. The combined impact of PTSD and increased alcohol use led to a ten-fold increased risk of suicide ideation.

Depression associated with work stress and suicide ideation may also be possible precipitants of increased police suicide risk. Violanti and colleagues (2008) examined the association between depressive symptoms and suicide ideation in a sample of police officers. Prevalence of depression was higher among women than men officers (12.5% vs. 6.2%). For each standard deviation increase in depression symptoms, the prevalence ratio (PR) of suicide ideation increased 73% in women officers ($PR = 1.73$, 95% $CI = 1.32-2.27$) and 67% in men officers ($PR = 1.67$, 95% $CI = 1.21-2.30$).

What are the Issues?

Issues are complex in any investigation of suicide. There any many facets to consider, both in a contextual and personal sense. Some of the issues that lead to police suicide rates are discussed below. This is not meant to reflect all relevant issues; there are some that are not yet known.

Police Suicide and the "Workplace"

How does one define the term *police suicide*? Jenkins (2005) points out that most occupational injury fatality surveillance systems capture only incidents that occur on an employers' premises or while a worker is engaged in work activities. This does not mean, however, that suicide among police officers is unrelated to their work. Suicides that are indeed driven by work related factors may occur at the officer's

home. If the stress that comes from police work is or becomes negative, it may become a risk factor (Jenkins, 2005).

What are the parameters of the "police workplace"? Johnson (1995) has commented that workplace violence does not have a uniform definition and that different kinds of violence require different insights and solutions. In addition, situational and contextual cues must be considered to define circumstances that lead to different kinds of violence. To clarify this important issue, The Association for Vital Records and Health Statistics (AVRHS), the National Institute for Occupational Safety and Health (NIOSH), the National Center for Health Statistics (NCHS), and the National Center for Environmental Health and Injury Control (NCEHIC) have jointly developed classification guidelines for what is considered "injury at work." In the category "law enforcement officer," these guidelines specifically state that any injury or fatality occurring to a police officer either *on or off* employer premises must be considered as a "workplace injury or death" (NIOSH, 1993, Appendix I). The reasoning behind this classification guideline is not discussed by the joint committee. It appears, however, that researchers view police work as an occupation which encompasses the life of any individual within its ranks whether they are on or off duty. Based on this definition, a suicide committed by a police officer away from or at the actual worksite may be considered a workplace death. It may be useful, however, to examine correlates of police suicides which occur at the actual *physical* worksite (e.g. police station) and those which occur away from that site.

The work experiences that officers encounter on a daily basis can certainly lead to stress, psychological anomalies, and family disruption. In many cases, these after-effects of work experience are taken home. Officers have a difficult time "switching off" their work and taking on other life roles such as spouse or parent (Violanti, 1997). For example, 68% of police officers who complete suicide do so away from the worksite. The most common location is their residence (Violanti, 1996). The majority of police departments in the United States provide a personal issued police service firearm for each officer. In addition, most police officers will carry their firearms off-duty, or will take them home. Thus, the means to commit suicide is generally available to officers away from the worksite.

Collecting Data on Police Suicide

Obtaining information on suicide from police sources is difficult. Suicide is not openly discussed by police personnel; officers tend to view suicide as dishonorable to the officer and profession (Violanti, Vena, & Petralia, 1998). Departmental statistics on police suicide are rare, and police agencies are sometimes reluctant to allow researchers access to existing data. Heiman (1977) attempted to collect data on police suicide from 23 major U.S. cities and met with discouraging results. Even the Federal Bureau of Investigation Uniform Crime Report (UCR) does not provide such data.

Another problem which muddles police suicide rate accuracy is the difficulty in gathering data on a national level. Countries such as Finland and Sweden have national records of causes of death over many years, but such databases are not available in the United States. If one wanted to conduct a national epidemiological study on police suicide, it would take an enormous amount of resources and time. It is methodologically possible to verifiably collect data on every suicide in every police agency in the United States, where there are approximately 708,000 sworn officers (Hickman & Reaves, 2006). Several national databases such as the National Occupational Mortality Survey (NOMS) do provide death certificate data on suicides for 28 states from 1984-1998. Future inclusion of more states and updated data may enhance knowledge on police suicide rates.

One attempt to study cross-jurisdictional police suicide rates was conducted by Langston (1995) for the National Fraternal Order of Police (FOP). Langston examined data from life insurance policy claims of 38,000 FOP members nationwide from 1992-94. These officers were from all types and sizes of departments including urban, suburban, and rural. She found that 37% of accidental police deaths were the result of suicide. Homicide was the second leading cause of accidental death at 26%, followed by motor vehicle accidents (26%) and other accidents (11%). Langston found that older officers committed suicide more often than younger ones, with the most suicides occurring after the age of 55. Guns were used in the majority of suicides. The average age of police suicide was 49.7 years.

The significance of the Langston study is that it was conducted on a wide geographical scale. Is was, however, limited in its scope due to several factors. First, this study

covered only three years of police policy claims. Most retrospective epidemiological mortality studies cover longer periods (20-25 years for example) to get the full impact of exposure on the cohort involved. Two or three years may not indicate a true overall number, as some years may have higher or lower rates than others and not reflect a true picture of cohort death rates. Secondly, the study was conducted on only FOP members. Not all police officers in this country belong to the FOP.

Another problem concerns the accuracy of death records. Not all states record occupation on death certificates and the accuracy of those occupations that are recorded is at times questionable. Those persons listed as "police" on the death certificate may have only worked in policing for a short period of time, or the term "police" may have been interpreted differently across different medical examiner/coroner jurisdictions.

The reference group to which police suicide is compared presents an additional methodological problem. Many studies on suicide in general utilize the U.S. general population as a comparison group. This may end in a biased result, as the general population includes the unemployed, institutionalized, incarcerated, and mentally ill (Kramer, Pollack, Reddick, and Locke, 1972).These population groups generally experience higher suicide rates. Thus, in essence, the police *should have relatively low suicide rates* when compared to the general population. As previously mentioned, the police are a physically and psychologically healthy working group, which can lead to a "healthy worker effect" bias (McMichael, 1976). Even if such a comparison were close to accurate, the fact that many studies show police officers to have a suicide rate equal to or higher than the general population suggests a cause for concern.

The work exposures involved in policing are confounders that add considerable weight to an analysis of suicide. Incidents such as witnessing death, encountering abused children, and street combat weigh heavily as precipitants to depression, alcohol use, and suicide. Any study on police suicide should thus compare the police with an occupation similar in confounder weight distributions, in addition to including such confounders in the analysis to assess their impact.

Measurement: Police Suicide "Rates" or "Risk"?

Many police suicide studies use a suicide "rate per 100,000" to make comparisons and as a way to assess differences between groups. There is a difference between suicide *rates* and suicide *risk.* These measures reflect different aspects of mortality and should not be compared directly with one another (Greenberg, Daniels, Flanders, Eley, & Boring, 1996). Rates are preferred if assessment centers on the how quickly (in time) new suicides arise. Risk is most useful if one wants to assess the probability that an individual will commit suicide over a specified period of time (e.g. a number of years). Generally, the word *rate* should be restricted to measures involving instantaneous changes and omit it from measures that can be viewed as proportions (Friedman, 1994).

Another way to assess risk is to determine the ratio of the rates of one group to another. The ratio of two rates is called the *risk ratio*. The latter term is typically used when mortality rates are compared to a standard or benchmark (such as the U.S. population). It is also used in the equivalent ratio comparison of *cases observed* to *cases expected,* given the standard rates. When any of these ratios is calculated in a way that takes into account differences with respect to age or other characteristics, the ratio is said to be *standardized* – thus the term, *standardized rate ratio* (SMR). Whether standardized or not, the ratio of two proportional mortality rates is the *proportional mortality ratio* (PMR; Friedman, 1994).

Will we better understand police suicide if we assess the *risk* of suicide in police work and not simply *rates* of suicide? How, then, do we assess the *risk* of suicide among police officers? This is a difficult question, as the risk predictors of police suicide are not yet well defined. To date, there have been no definitive studies that lay the foundation for police suicide risk predictors. We know that there are certain factors that occur more often than not in police suicides, but can they effectively predict such suicides? This is a crucial question for prevention. Psychological autopsies may help in this regard. Factors that are part of suicide risk assessment are believed to be better at predicting suicide than are other available measures. Some suicide risk factors are developed subjectively, by asking knowledgeable professionals to select items their experience tells them are predictive. Other police measures are empirical, using statistical analyses to select

among a set of available data elements that capture attributes of suicide (Gonzales, Henke, & Flores, 2005). Gonzales and colleagues (2005) provide five steps to be followed in developing a methodologically sound *risk* prediction:

- First, define the behavior or event to be predicted and develop procedures for classifying persons on the basis of their performance in regard to that behavior or event.

- Second, select and define the attributes or characteristics on which the predictions may be based. Critics of prediction methods often argue that the procedures ignore differences among individuals. However, such differences, often assumed to be a source of error in other problems, are in fact the basis for any prediction effort. If the persons studied are alike with respect to the predictor candidates, no differential prediction can be made. If they are alike with respect to the criterion categories, there is no prediction problem.

- Third, determine relationships between predictor variables and criterion in a sample representative of the population for which inferences are to be drawn.

- Fourth, verify the relations found in the original sample by testing the prediction procedures in a new sample, or samples, of the population. Although this verification (cross-validation) often is omitted, it is a critical step.

- Fifth, apply the prediction method in situations for which it was developed, provided that the stability of predictions has been supported in the cross-validation step and appropriate samples have been used. (Gonzales, et al., 2005).

An example.   Violanti, Vena, and Marshall (1996) assessed the risk of suicide, homicide, and accidental deaths among 2,611 police officers and compared that risk to municipal workers. Data was obtained from a mortality database of municipal workers and police officers. The study used historical information as well as death certificates on each case. Findings indicated that police officers had a higher number of total suicides than municipal workers, but fewer total accidents, homicides, and undetermined deaths.

Interesting were ratios between suicides, homicides, and accidents within police and municipal worker categories. Within the police occupation, officers had a suicide rate of

8.3 times that of police homicide, and a suicide rate of *3.1 times* that of police accidents. Within other municipal occupations, the suicide-homicide ratio was 3.25 and the suicide-accident ratio .20.   When compared to municipal workers, police officers had a 53% increased risk of suicide over homicide, a 310% risk of suicide over accidents, and a 265% risk of suicide over homicide and accidents combined. Overall, police officers had an increased relative risk for suicide over all types of death in comparison to municipal workers. This study provided some evidence that police officers have an increased risk of suicide over homicides and accidents when compared to municipal workers. Suicide may thus be considered as a potentially higher risk to officers when compared to other hazards of policing and other occupations.

Are Some Police Suicides Misclassified?

Adding to the problem of counting police suicides is a supposition that such suicides may be routinely misclassified as accidents or undetermined deaths (Phillips & Ruth, 1993; Aldridge & St. John, 1991; O'Carroll, 1989; Pescosolido & Mendelsohn, 1986). The police officer's "working personality" (Skolnick, 1972) includes a perception of invulnerability that views suicide as disgraceful to the victim officer and profession. Police investigators at the scene of a fellow officer's suicide can readily control information to protect the victim officer and family from the stigma of suicide. In effect, the initial police investigator is the gatekeeper of information at the scene, and medical examiners may have only secondary level discretion in the classification process. An early study of the Chicago Police department by Cronin (1982) found fifteen cases of suspected suicide in the Chicago police department officially listed as "accidental gunshot wounds."

There is scant scientific evidence of police suicide misclassification. In an attempt to help clarify this situation, Violanti, Vena, and Marshall (1996) conducted a study to test how well "officially" *reported* police suicide rates represented the *actual* police suicide rate. The study was conducted on a large epidemiological database of 11,760 city workers, which included police officers and persons in other city jobs (Vena et al., 1986). Vital status and death classifications were obtained for police officers who worked a minimum of five years in their specific occupational group between the years 1950-1990. Sources of vital status follow up included benefit and pension programs, the state retirement system, voter registration records, the department of motor vehicles, the social

security administration, city directories, obituaries, and the National Death Index Database. Information was located on 98% of officers and other workers.

In this study, deaths listed as suicides, accidents, or undetermined causes were collected. Accident and undetermined death classifications were selected in addition to suicides because suicide has been shown to be systematically misreported within these categories (O'Carroll, 1989; Pescosolido & Mendelsohn, 1986). Information on each person was compiled from death certificates, medical examiner reports, autopsies, police investigative reports, newspaper accounts, and obituaries and given to a panel of one chief and two associate county-level medical examiners, all of whom had M.D. degrees, investigated at least 300 cases per year, and were employed an average of 30.6 years. After investigation, suicides were reclassified as suicides. Police and municipal worker suicide rates were then compared for sensitivity. Results indicated that twenty (83.3%) police suicides originally classified as suicides were still considered suicides after the medical examiner panel's review. For municipal workers, twelve (92.3%) of suicides originally classified as suicides were still suicides after panel review. Thus, approximately 17% of police suicides, as opposed to 8% of suicides in other occupations, were misclassified. A proportional equation developed from this study indicated that for every 100 police suicides officially reported there may actually be 117 police suicides.

Conclusions

Given the present state of research on police suicide, it is likely that data inaccuracies will continue to exist. Underreporting, misclassification, lack of nationwide comprehensive data, and the difficulty associated with collecting data leaves us with this dilemma. Exposure and job socialization in policing have profound impacts on officers. Exactly how to measure the impact over time that police work has on individuals is a difficult question. It will likely take long term prospective studies to make sense out of such exposure.

While we cannot state absolutes concerning police work and suicide, we can state within a degree of certainty that police work exacerbates the conditions for suicide. This occupation serves as a plausible fertile arena for suicide precipitants, including relationship problems, culturally approved alcohol use and maladaptive coping, firearms availability, and exposure to psychologically aversive incidents. Given these conditions, the contextual nature of police work is a probabilistic link in the causal chain of suicide.

The controversies reflected in this paper tell us that we need to look deeper into police suicide and its root causes in the coming years. We may be better informed for prevention if we know the inherent *risk* of police suicide in a quantitative, qualitative, and contextual sense.

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Selected Annotated Journal Resources

Kristina Perry Lloyd, MS and Karina E. Chapman, MS

Draper, B., Snowdon, J., Wyder, M. (2008). A pilot study of the suicide victim's last contact with a health professional. *Crisis, 29*(2), 96-101.

TYPE OF ARTICLE

- Pilot study of a detailed psychological autopsy of suicide victims.

OBJECTIVE/PURPOSE OF THE ARTICLE

- This study sought to investigate the feasibility of undertaking a study to describe the characteristics of the last visit to a health care professional.

- Identify the psychological morbidity and suicide risk present during the last visit to a health care professional.

PROCEDURE
Participants

- From April 2003 until April 2004 all deaths determined suicide by the Glebe Corner's Court, Sydney, Australia for individuals aged 35 and over were eligible for inclusion.

- One hundred and twenty seven deaths were eligible and 41% ($n = 52$) of the families of the deceased participated in the study.

- Seventy three percent ($n = 55$) of the deceased had contact with a health care provider in the three months prior to suicide.

- Fifty-four percent ($n = 37$) of health care providers who had a patient commit suicide agreed to participate in the study.

- Health care providers included physicians ($n = 28$), clinical nurse consultants ($n = 5$), psychologists ($n = 2$) and counselors ($n = 2$).

- Sixty percent ($n = 22$) of health care providers were male.

- The median career of the health care provider was 20-25 years.

- Twenty-eight family members of the deceased participated in the study.

Procedure

- Letters from the Corner's office were sent to next-of-kin, which was followed by a phone call from the project research officer inviting participation.

- Psychiatric diagnoses were made based on information gathered from interviews (with family and health care professionals) and medical records.

- Interviews with health care professionals regarding the last contact (date and length of appointment) as well as the number of contacts made in the six months prior to suicide and the length of the relationship between the provider and the patient were assessed. These interviews took place 10-14 months after the suicides.

- Information was also gathered regarding history of mental illness, substance use, the presence of pain and strategies used to cope with pain, history of suicide attempts, and non-suicidal self-injury.

- Qualitative factors such a rapport between health care provider and patient or unusualness of patient behavior were also gathered.

Measures

- Next-of-kin were interviewed using a modified version of the Rochester Suicide Behavior Profile.
- The Structured Clinical Interview for DSM-IV was use to gather demographic data as well as information as to what led up to the suicide including expression of suicidal ideation.

RESULTS

- The primary reason for the last health care provider contact was for mental heath issues ($n = 23$, 65%). Eight visits (22%) were for physical health complaints and five (14%) were for social problems. One was a review for a nursing home.
- Health care providers reported that 18 patients (49%) presented as depressed as assessed by their interview. This was significantly more likely to occur in patients older than 60 (Pearson $c^2 = 14.83$, $df = 2$, $p = .001$).
- Thirty-one health care providers ($n = 84$%) indicated they had developed a good rapport with the deceased, four described their interviews as "difficult" and two indicated that the patient was guarded or disengaged.
- In 14 interviews a formal suicide risk assessment was undertaken but none of the healthcare providers believed the patient was suicidal.
- Family informants reported a change in 11 of the 28 suicides (39%).
- Fifteen (54%) of the family members indicated the deceased had made statements of hopelessness.

CONCLUSIONS/SUMMARY

- The pilot study suggests that such a study will be feasible on a large scale.
- Previous studies have indicated that failure to recognize depression by health care providers is a critical issue. This study offers partial support for this theory because approximately 75% of the deceased in this study had a diagnosed and treated mental illness at the time of the last contact. The majority of participants were prescribed antidepressant medication two-thirds of which were medication compliant.
- Over 60% of the deceased were found not suicidal in a formal suicide risk assessment during the last visit with a health care provider.
- Family informants appeared to have a more detailed knowledge of behavior suggestive of potential suicide as compared with health care providers.

LIMITATIONS

- The health care provider interviews took place on average 10 – 14 months after the suicides which may have affected the recall of the events that took place.
- It is not possible to know if the knowledge of the suicide biased the recall of the events by the providers.
- This study was not controlled so there is no way to know if the last appointment with the health care provider was different to other appointments.
- The sample size is small.

Updegraff, J. A., Silver, R. C., Holman, A. (2008). Searching for and finding meaning in collective trauma: Results from a national longitudinal study of the 9/11 terrorist attacks. *Journal of Personality and Social Psychology, 95*(3), 709-722.

TYPE OF ARTICLE

- Longitudinal

OBJECTIVE/PURPOSE OF THE ARTICLE

- This study investigated how early coping processes—searching for meaning—account for long-term adjustment to the 9/11 attacks. Specifically, what factors predict the degree of a person's search for and ability to find meaning in the 9/11 attacks, and is the ability to find meaning related to long-term adjustment.
- Authors hypothesized that individuals who were less able to find meaning in the 9/11 events would report more long-term fears and greater posttraumatic symptoms than individuals who were able to find meaning.

PROCEDURE
Participants

- At the time of the first survey, 931 respondents participated in this study (50.8 % of whom were women).
- Seventy percent of participants identified themselves as White, 12.5 % as Hispanic, 11.3 % as African American, and 6.7 % as other.

- Sixty percent of the sample were married, 22 % divorced or separated, 16 % single, and 18% separate/divorced/widowed.
- For the sample, 60.5 % reported indirect exposure, 8.2 % reported residing within 100 miles of the attacks, and 2.7 % reported direct exposure.

Procedure

- Prior to September 11, 2001 a pool of participants was generated from a nationally representative sample using traditional probability methods (random digit dialing). The pool was created for a variety of surveys to be completed, unrelated to 9/11.
- Participants were provided an Internet connection and Web TV in exchange for completing surveys.
- Upon entry to the panel, participants completed a survey of mental and physical health that assessed if they had ever been diagnosed by a physician for a physical or mental health disorder.
- Between September 20 and October 4, 2001 and November 10 and December 3, 2001 participants completed a web survey in which acute responses as well as questions regarding searching for meaning of the attacks were assessed.
- Between September 20 and October 24 2002 and September 12 and October 31, 2003 participants completed surveys addressing their efforts to search for and find meaning from the events.

Measures

- Three indices were created to objectively measure participants exposure to the 9/11 attacks: 1) a dichotomous measure of whether the participant lived within 100 miles of the World Trade Center (WTC) at the time of the attacks; 2) if the participant had direct exposure to the attacks (was in the WTC or pentagon, witnessed the attacks directly, etc.); and 3) indirectly witnessed the attacks via television.
- Acute stress was assessed using the Stanford Acute Stress Reaction Questionnaire which was modified to ask if participants "experienced" or "did not experience" symptoms with regard to the 9/11 attacks.
- Coping strategies were assessed using the Brief COPE. Participants were asked to use a 5-point scale (1 = no, never to 5 = yes, all the time) to respond to items such as

"Over the past week, have you ever found yourself trying to make sense of the September 11 attacks and their aftermath?"

- The Vaughan Perceived Risk Scale was used to assess participants' fears about future terrorist attacks.
- Posttraumatic symptoms were assessed at the 1-year and 2-year follow up using the Posttraumatic Stress Disorder Checklist—Civilian Version.

RESULTS

- Individuals who did not complete the follow-up surveys were not significantly different from those who completed the follow-up surveys with regard to psychological diagnoses, gender, exposure to the attacks, or acute stress symptoms. However, non-respondents to the 1-year and 2-year follow-up surveys were significantly younger than respondents (mean differences = 5.71 and 9.39, respectively; p's < .01).
- Respondents had a higher mean (5.03) on the Acute Stress measure as compared to individuals not exposed to trauma (4.9) suggesting that participants in this study experienced a higher level of stress.
- The majority of respondents (68.4%) reported some attempt to search for meaning in the two-month period following 9/11/2001, although there were no specifics of how this occurred. However, 59.7 % reported they were not able to do so.
- One -year post-9/11, 58.7 % of respondents were unable to find meaning.
- A hierarchical regression indicated that older respondents (ß = .23, p < .01), women (ß = .15, p < .01), and singles (ß = .09, p < .05) were more likely to search for meaning as were individuals who initially reported higher levels of acute stress.
- A hierarchical regression indicated that men and those with some college education (ß = .14, p < .01) were more likely to find meaning. At two months post-9/11, searching for meaning was positively correlated with outcomes of fears of future terrorism at 1-year and posttraumatic symptoms at 1-year and 2-years (r's = .28, .25, and .26, respectively; p's < .01).
- At two months post-9/11, finding meaning was negatively correlated with outcomes of fears of future terrorism at 1-year and posttraumatic symptoms at 1-year and 2-years (r's = -.21, -.13, and -.13, respectively; p's < .01).

- Respondents who found more meaning at two months reported fewer fears of future terrorism at the 1-year follow-up ($B = -.07$) compared to those who found less meaning in the early aftermath of the attacks.
- There was a significant interaction between finding meaning and proximity such that there was a stronger link between finding meaning and subsequent fears among respondents who resided within 100 miles of the WTC ($B = -.25$, $p < .01$) compared to all other respondents ($B = -.07$, $p < .05$).
- Respondents who were searching for meaning at 2-months reported greater posttraumatic symptoms over time than those who were not searching for meaning ($B = -.13$, $p < .05$).

CONCLUSIONS/SUMMARY

- The degree of objective exposure did not predict either the degree to which participants searched for or found meaning in the attacks.
- Searching for and finding meaning was related to adjustment over time.
- Participants who were able to find meaning were less likely to report subsequent fears of terrorism and reported fewer symptoms of posttraumatic stress disorder over time when compared to participants who could not find meaning of the attacks.
- This study provides a link between the theory that finding meaning in negative life events plays a role in adjustment by reducing feelings of vulnerability.

LIMITATIONS

- Due to the many constructs being assessed, single-item measures were used for searching for and finding meaning. This limits the manner in which people find meaning is assessed and may not incorporate the many ways that people find meaning from negative live events.
- The attrition rate was not completely random in that more African Americans and Hispanics dropped out over time.
- The sample of individuals directly exposed to the attacks was a small number and so there was a limited power to detect similarities and differences.

Blodgett, C., Behan, K., Erp, M., Harrington, R., Souers, K. (2008). Crisis intervention for children and caregivers exposed to intimate partner violence. *Best Practices in Mental Health, 4*(1), 74-91.

TYPE OF ARTICLE

- Logistical Regression used to analyze clinical records

OBJECTIVE/PURPOSE OF THE ARTICLE

- Identify the common characteristics of children and families who experience violence as well as the type of violence experienced.
- Identify the effectiveness of crisis intervention strategies in engaging families in informal supportive relationships who have been exposed to violence in order to reduce the immediate effects of the trauma.
- Determine if there is benefit in crisis intervention strategies for children and families exposed to violence.
- Determine variables that predict the success of engaging families in crisis in outreach services.

PROCEDURE
Participants

- Referrals were made from law enforcement, social service agencies, and domestic violence advocates.
- All families in the study were required to have at least one child under the age of six as this was a requirement for state funding. However, services were offered to all members of the family.
- Referrals for 972 children and 464 families were received. Fifty-seven children from 15 families are in the data set twice because they had two or more independent crisis referrals.
- Eighty-three percent (388 of 464 families) and 85% of children (828 of 973 children) were in treatment.
- Seventy-nine percent of children ($n = 654$) and 86% of families ($n = 335$) were exposed to interpersonal violence.
- The mean age of children was 5.89 years ($SD = 4.05$; range = 0-19) while the mean age of adults was 31.12

years (SD = 7.98; range = 18.6-53.40). The mean assailant age was 32.44 years (SD = 8.06; range = 18.9-55.40).

- Victims were 93% female and assailants were 90% male.

Procedure

- Four master's-level clinicians with a clinical supervisor provided 24-hour crisis services.
- Clinicians used a blend of engagement, support, and solution-focused problem-solving in order to build a relationship that would facilitate on-going support services.
- Intervention goals were: 1) establish on-going safety; 2) identify practical actions to increase physical and emotional comfort; 3) decrease emotional distress; 4) identify goals for extended support; 5) empower the individual to use coping skills; and 6) connect the individual to social support resources.

Measures

- Crisis clinicians maintained clinical records in order to provide professionally informed data while minimizing invasion to family privacy during times of crisis.
- Families were categorized as referral only (no contact made by crisis clinician) or engaged.
- Clinical records were evaluated on four rating categories: 1) quality of the clinical record; 2) level of service provided to each family; 3) the level of receptiveness to help by each family; and 4) evidence of benefit to the family.
- Each record was independently evaluated by two or three raters and rater agreement exceeded 90%.
- Record quality was evaluated as good, fair, or poor based on completeness of the record.
- Service level and intensity were rated on a continuum ranging from time-limited crisis intervention to sustained services in the form of problem solving, supportive counseling, and the development of formal plans to connect families with social service agencies.
- Evidence of benefit to the family was evaluated as an end of the violent relationship, improved functional adjustment, or sustained engagement in health and social services.

RESULTS

- Eighty-three percent of adult victims reported previous exposure to interpersonal violence and 53% reported exposure to interpersonal violence when they were children.
- Twenty three percent of adult victims and 82% of assailants reported histories of substance abuse.
- At the time of the crisis, 33% of families were engaged with a heath or social service support system.
- The majority of referrals resulted in crisis intervention contact of one the three sessions (78% of children, n = 211).
- In 22% of the children (n = 59) intervention resulted in a more extended supportive relationship.
- In clinical records that were rated good, 13% showed evidence of substantial benefit to the child and/or family.
- The presence or absence of support was significantly related to the duration of support. Of the families who engaged in engaged in extended support 42% showed benefit. The families that only received crisis intervention showed 4% showed benefit (chi square (df = 1) = 60.83, p < .01).
- Benefits were greatest among children whose families received more than five direct contacts (Chi square (df = 2) = 91.60, p < .01).
- The variables that were significantly associated with progression through the levels of support were type of intimate relationship (cohabitating or separate residence), substance abuse, and victim employment.

CONCLUSIONS/SUMMARY

- This study confirmed the feasibility and potential effectiveness of crisis intervention as a response to family violence. Two thirds of the participants in this study had no other relationship with social service agencies.
- Initial findings suggest that assailant and victim characteristics may be predictive of service engagement and benefit.
- Increased contact with families and children provides greater benefit in comparison to brief contact.

LIMITATIONS

- Standardized reporting tools would help consistency and support a common definition of terms.

- More thorough reporting methods would give a more detailed analysis of families who declined to participate in any services.

Ehring, T., Frank, S., & Ehlers, A. The role of rumination and reduced concreteness in the maintenance of posttraumatic stress disorder and depression following trauma. *Cognitive Therapy Research, 32,* **488-506.**

TYPE OF ARTICLE

- Original empirical investigation

OBJECTIVE/PURPOSE OF THE ARTICLE

- To examine the variables maintaining posttraumatic stress symptoms.

- To replicate earlier findings regarding the role of rumination in the maintenance of PTSD and depression following trauma.

METHODS
Participants

- Participants were recruited from King's College Hospital's Accident and Emergency Department (A&E), London, subsequent to suffering an injury in a road traffic accident.

- Inclusion criteria were: injury in a road traffic accident; injuries exceeded "blue" triage injuries (very mild injuries); age between 18 and 65; address in greater London. Exclusion criteria were: left before receiving medical treatment; current psychosis or suicidality; attending A&E Department more than three days.

- Study 1 was a cross-sectional investigation and comprised 101 participants (56% male; age $M = 34$. $SD = 10.60$). Participants were interviewed on one occasion. Twenty-three percent of participants experienced the accident as a car driver, 22% as a passenger, 29% as a motorcyclist, and 27% as a bicyclist. Sixty-five percent of participants received minor injuries, 29% urgent, and 6% received life threatening injuries.

- Study 2 was a prospective longitudinal investigation and the sample was comprised of 147 participants. Participants attended an interview 2 weeks after the incident and were followed for 6 months. Thirty percent of participants had experienced the accident as car drivers, 16% as passengers, 38% as motorcyclists, and 26% as bicyclists. Sixty percent of participants injuries were minor, 36% were urgent, and 4% were life threatening.

- In both studies, a high comorbidity between posttraumatic stress disorder, acute stress disorder, and major depression was found: Fourty-one percent (Study 1) and 52% (Study 2) of participants with PTSD/ASD at the initial assessments also met criteria for major depression; and 64% (Study 1) and 86% (Study 2) of participants with major depression also suffered from PTSD.

Materials

- In both studies, PTSD and major depression were assessed with the SCID (First et al., 1996). In Study 2, only the *Acute Stress Disorder Scale* (*ASDS*; Bryant & Harvey, 2000) was conducted as an interview at the 2-week assessment. Researchers rated the presence or absence of DSM-IV symptom criteria for ASD based on participant's responses.

- Posttraumatic stress disorder symptom severity was assessed using the *posttraumatic Diagnostic Scale* (*PTSD*; Foa, Cashman, Jaycox, & Perry, 1997).

- The *Beck Depression Inventory* (*BDI*; Beck, Rush, Shaw, & Emery, 1979) assessed the severity of depressive symptoms.

- The rumination subscale of the *Responses to Intrusions Questionnaire* (*RIQ*) was used to assess rumination about the trauma and/or its consequences. This self-report scale assesses different aspects of trauma survivors' responses to intrusive memories and consists of eight items.

- The 10-item version of the rumination scale of the *Response Style Questionnaire* (*RSQ*; Nolen-Hoeksema & Morrow, 1991) was used to assess depressive rumination defined as perseverative thinking about one's symptoms of depression and possible causes and consequences of these symptoms.

- The Rumination Interview generated the material for rating the concreteness of the participants' ruminative thoughts. It was adapted from the Catastrophizing Interviews used by Vasey and Borkovec (1992). In the first

part of the interview, participants were asked to identify their main concern related to the accident and explore the question of what concerns them the most about their identified concern. For the second part of the interview, participants were asked to identify a topic of recent or current sad mood and the interview followed the same procedure with the question "What is it about X that makes you feel sad?" Graduate students rated answers from the interview transcripts using a scale developed by Stober and colleagues (2002).

Procedure

- Study 1: Participants received the questionnaire packet and completed the packets the day before attending the assessment session. During the session, participants completed the Rumination Interview and the SCID. Participants received $30 as a reimbursement for their time.

- Study 2: The study comprised four assessments. The first assessment conducted at 2 weeks posttrauma was identical to Study 1. Symptom severity measures were repeated at 1, 3, and 6 months following the accident. The SCID was also repeated by telephone at the 6-month follow up assessment.

- Diagnostic groups were compared with *t*-tests and Pearson's product-moment correlation coefficients were computed to investigate the relationship between variables of interest.

RESULTS

- The *t*-tests showed that participants with ASD, PTSD, or major depression reported more rumination about the trauma and more depressive rumination than participants without these disorders.

- Rumination about the trauma as well as depressive rumination correlated significantly with PTSD and depressive symptom severities in all assessments.

- Trauma-related rumination at 2 weeks predicted PTSD symptom severity at 6 months over and above symptom levels at 2 weeks. Trauma-related rumination measured at 1 month predicted PTSD symptom severity at 6 months over and above symptom levels at 1 month. Similarly, self-reported depressive rumination measured at 2 weeks and at 1 month predicted BDI scores at 6 months over and above what was predicted from initial depressive symptoms at 2 weeks and at 1 month.

- To rule out the possibility that the results represent a shared relationship between re-experiencing and rumination, the analyses were rerun with an adjusted PTSD symptom severity score that removed re-experiencing items. All correlations and partial correlations between the rumination scales and PTSD severity remained significant for the adjusted score.

- For concurrent assessments, PTSD symptom severities were still significantly correlated with both trauma-related as well as depressive rumination scores in both samples when statistically controlling for symptom levels of depression. Similarly, BDI scores still showed significant correlations with depressive rumination and trauma-related rumination when controlling for PDS scores.

- For the prediction of future symptoms in Sample 2, specific associations emerged. PTSD symptom severities at 6 months follow-up were only significantly predicted by trauma-related rumination, but not by depressive rumination when symptom levels of depression were partialled out. Similarly, only depressive rumination, but not trauma-related rumination, predicted BDI scores at 6 months when PDS scores were partialled out.

- For trauma-related rumination scores, a significant interaction between ASD at 2 weeks and time of assessment was found. Follow-up tests showed that the degree of trauma-related rumination significantly decreased from 2 weeks to 1 month in participants without ASD, whereas participants with ASD did not show a change in rumination scores during this interval. For depressive rumination scores, there was no significant main effect of 'time of assessment'.

- The mean number of steps participants generated in the trauma-related rumination part and depressive rumination part of the Rumination Interview significantly correlated with self-report levels of rumination.

- In Study 2, concreteness in the Rumination Interview at 2 weeks was significantly negatively related to depressive symptom severity at 3 and 6 months. Similarly, there were differences between participants with and without major depression in concreteness levels at 2 weeks.

- In all analyses with PTSD symptom scores as dependent variable, the frequency of trauma related rumination entered in the fist step of the regression equation predicted symptom severity.

- Regression analyses with symptom levels of depression as dependent variables only showed significant effects for the self-reported frequency of depressive rumination. Neither concreteness nor the interaction between concreteness and self-reported rumination scores significantly improved the prediction of depressive symptom severities.

CONCLUSIONS/SUMMARY

- Self-reported rumination about the trauma was significantly and substantially correlated with the severity of PTSD symptoms. Rumination was not only related to concurrent PTSD symptoms, but also predicted subsequent symptoms at 6 months. Rumination predicted a substantial about of the variance (between 36% and 50%) of PTSD symptom severity.
- The findings extended previous studies in that rumination not only predicted self-reported PTSD symptoms but also a diagnosis of ASD at 2 weeks, and a diagnosis of PTSD at 6 months after the traumatic event. In addition, rumination predicted the severity of PTSD symptoms over and above what could be predicted from initial symptom levels.
- In sum, the results support the view that rumination is an important maintaining factor of PTSD following trauma.
- The finding that rumination is a powerful predictor of PTSD symptom severity from 2 weeks onward is valuable for the early detection of people at risk for chronic PTSD. Research into early interventions following trauma has shown discouraging results for debriefing interventions that are offered to every trauma survivor, whereas a course of cognitive behavioral interventions with individuals high at risk of chronic PTSD has been shown to be effective. The present study suggests that the assessment of rumination might help improve the early identification of trauma survivors in need of early intervention.
- In the past, trauma-related rumination and re-experiencing symptoms have sometimes been treated as unitary phenomena. The current study supports the view of rumination and re-experiencing as conceptually and phenomenologically distinct. In the current study, rumination still predicted the maintenance of PTSD when initial symptoms were statistically controlled and for and the size of the correlations did not change when PTSD symptoms

severity was calculated omitting the re-experiencing symptoms.
- The current study extended previous research by showing that levels of depressive rumination assessed after the trauma are highly associated with concurrent and subsequent levels of depression. The study suggests a relationship between trauma-related rumination and depressive rumination.
- This study attempted to better understand the process of rumination and its effects on maintaining post-traumatic distress symptoms by incorporating the Catastrophizing Interview. In the current studies, the number of steps in the Rumination Interview was significantly related to naturally occurring perseverative thinking.
- While previous research has supported the hypothesis that recurrent negative thinking is characterized by reduced concreteness in individuals experiencing nonclincial worry and generalized anxiety disorder, this association was not supported in the current study with individuals who have experienced a trauma. This discrepancy may be related to differences in the methodology of the studies. The results may also point to differences between worry and rumination.
- The significant relation between the number of steps generated in the Rumination Interview and concreteness ratings in Study 1 supported the hypothesis that reduced concreteness would be associated with perseveration of negative thinking in individuals with emotional disorders. However, Study 2 did not replicate this result. It may be that the observed relationship with reduced concreteness only applies to chronic forms of rumination, as the negative findings in Study 2 were obtained only 2 weeks after the event, when the event may have been very prominent on all participants' minds.
- Finally, the study only received weak support for the hypothesis that reduced concreteness would predict the severity of psychological problems after trauma. Although there were significant group differences in concreteness between participants with and without major depressive disorder at 2 weeks after the accident, and low concreteness at 2 weeks was positively associated with severity of depressive symptoms at 3 and 6 months, overall, the correlations were small. Thus, it remains unclear whether reduced concreteness of thinking about the trauma is associated with the maintenance of depression and PTSD following the trauma.

CONTRIBUTIONS/IMPLICATIONS

- The results from the study replicate and extend previous findings regarding the role of ruination in the maintenance of emotional disorders following trauma. Rumination at 2 weeks and 1 month after the trauma appears to be an important predictor of PTSD.

- It remains unclear whether low concreteness is an important dimension underlying dysfunctional forms of recurrent negative thinking.

- Future work is needed to clarify the relationship between functional versus dysfunctional ways of thinking about problems or negative experiences and to isolate the most relevant processes involved in the maintenance of PTSD and depression after trauma.

Williams, J. K., Wyatt, G. E., Rivkin, I., Codathi Ramamurthi, H., Li, X., & Liu, H. (2008). Risk reduction of HIV-positive African American and Latino men with histories of childhood sexual abuse. *Archives of Sexual Behavior, 37*, 763-772.

TYPE OF ARTICLE

- Original empirical investigation

OBJECTIVE/PURPOSE OF THE ARTICLE

- The purpose of this study was to conduct a small randomized clinical trial whose aims were to reduce sexual risk behaviors, number of sexual partners, and depressive symptoms for gay and non-gay identifying HIV-positive African American and Latino men who have sex with men (MSM) and men who have sex with both men and women (MSMW) with histories of childhood sexual abuse (CSA).

METHODS
Participants

- A community sample of HIV-positive African American and Latino MSM and MSMW was recruited from HIV and other service agencies in Los Angeles County using fliers, print advertisements and face-to-face recruitment.

- Potential participants were screened and included in the study if they indicated meeting all of the following criteria: male, 18 years of age or older, English-speaking, self-identified as African American/Black or Latino, HIV-positive, had sex with a male partner in the prior 6 months, and prior to age 18, had an experience of unwanted or coerced sexual contact with an adult or someone at least 5 years older.

- Initially, 164 men enrolled but only 137 completed the intervention due to death (n = 5) or lost to follow-up (n = 22). The sample size of the Sexual Health Intervention for Men (S-HIM) was 62 (African Americans = 36, Latinos = 26) and the Standard Health Prevention (SHP) control was 75 (African Americans = 53, Latinos = 22).

- The participants were a middle-aged (*M* age = 43.5 years, *SD* = 8.0), high school educated (*M* = 12.3 years of education, *SD* = 3.4), poor (average per capita monthly income = $906.61, *SD* = 3,065), and underemployed (87.5% unemployed) sample.

- Regarding sexual partners, 41% reported having sex with only male partners, while 59% reported having sex with male and female partners. When asked what they considered their sexual identity label to be, 58% identified as homosexual or gay, 29% as bisexual, 9% as straight or heterosexual, and 4% as undecided or not defined. Of the men who identified as homosexual or gay, 23% had sex with a female partner in the previous 6 months.

- The relationship status of this group included predominantly single men who were not in a committed or serious relationship and living alone (81%).

Materials

- A comprehensive 90-minute structured interview was administered to participants. The interview included demographic variables and an assessment of history and severity of CSA.

- The vast majority of participants (87.6%) reported CSA that included performing and/or receiving oral or anal sex, digital penetration or penetration with objects. Of those participants, 53% reported anal penetration, 37% reported performing or receiving oral sex against their will and 10% reported both. The remaining 12.4% reported CSA that included touching, fondling, or frottage.

- Among the sample, 52% reported one incident of CSA, 48% reported two or more incidents and the mean number of incidents for the total sample was 1.7.

- Intrafamilial CSA where the perpetrator of the abuse was a family member was reported by 27%, while extrafamilial

CSA where the perpetrator of the abuse was not a family member was reported by 73%.

- Sexual risk behaviors were measured with 11 items from the Revised Wyatt Sex History Questionnaire (Wyatt, 1984).

- The number of sexual partners in the previous 6 months was assessed with 1 item.

- The Center for Epidemiological Studies-Depression Scale (CES-D) was used to assess depressive symptoms (Radloff, 1977). Participants rated the occurrence of various feelings on a four-point scale.

Procedure

- The Men's Health Project was a 3-year study conducted from 2003 to 2006 to develop and test an HIV risk reduction intervention. Participants were administered a baseline assessment and then randomly assigned to one of two conditions.

- The S-HIM focused on decreasing high-risk sexual behaviors and psychological distress, specifically depressive symptoms.

- The attention-control SHP comparison condition focused on health issues unrelated to sexual behavior, including diet, exercise, adequate rest, and medication adherence.

- Both interventions included six weekly 2-hour group sessions with of 5–7 African-American or Latino men in each group. If participants missed a session, they were given an abbreviated 30-min one-on-one session with the facilitator prior to the next session.

- After completing the intervention, participants were post-tested immediately and at 3 and 6 months. All participants were reimbursed $10 per session and $15 per assessment.

- The S-HIM was adapted from the evidence-based Women's Enhanced Sexual Health Intervention (ESHI), an 11-session intervention for HIV-positive women with histories of child sexual abuse (Wyatt et al., 2004), guided by cognitive-behavioral approaches (Bandura, 1986). Additionally, the S-HIM was guided by formative data from four ethnic- and gay/non-gay-identifying specific focus groups (i.e., African American gay versus non-gay identifying, Latino gay versus non-gay identifying) (Williams et al., 2004).

- The S-HIM curriculum emphasized personal responsibility for self-care and protection of health and well being (Chin, Wyatt, Carmona, Loeb, & Myers, 2004). HIV skills were taught within the context of personal, family, and community values so that participants could acknowledge the cultural and religious messages that possibly contradict HIV prevention efforts.

- Choices regarding sexual behaviors and consequences were discussed within a culturally congruent social context, specifically for HIV-positive ethnic men.

- Consensual and non-consensual childhood sexual experiences were discussed, as well as how these experiences affect current sexual decision-making. Participants learned how to identify triggers to risk behaviors, especially feelings that were connected to such previous sexual experiences.

- Finally, the S-HIM included treatment of cognitive distortions and negative thoughts and emotions and addressed affective dysregulation that can limit risk reduction. Emphasis was placed on problem-solving strategies and communication skills training.

- The SHP was the control condition designed to reduce the likelihood that effects of the S-HIM could be attributed to special attention and group interaction. Both conditions received a valuable intervention that extended beyond ''usual care''. The SHP intervention addressed health issues, including certain cancers, hypertension, diabetes, and heart disease, all of which are common among ethnic minority men, but did not specifically focus on sexual behavior.

- Participants were taught that these diseases could be prevented by changing personal behaviors or managed with early detection and screening behaviors. Participants were also taught information and skills to increase their adherence to medical regimes. The SHP intervention was structurally similar to the S-HIM.

RESULTS

- The covariate adjusted 2 (condition: S-HIM and SHP) by 4 (time: baseline, post, 3 month, and 6 month) repeated measures analysis of variance (ANOVA) revealed a significant main effect of time on sexual risk behavior. The sample as a whole reported reductions in level of sexual risk behavior from baseline to post-test, and from the 3 month to the 6 month follow-up. Further simple

effects tests revealed that the reduction in level of sexual risk behavior from baseline to post-test was significant for S-HIM participants but not significant for SHP comparison participants. However, there was no significant main effect of condition on level of sexual risk behavior and no significant condition by time interaction.

- The covariate adjusted repeated measures (condition x time) analysis of variance (ANOVA) revealed a main effect of time on number of sexual partners. The sample as a whole reported reductions in the number of sexual partners from baseline to post-test. This reduction was significant for S-HIM participants and marginally significant for SHP participants. There was a marginally significant reduction in number of sexual partners from post-test to the 3 month follow-up and a significant reduction from the 3 month to the 6 month follow-up. There was no main effect of condition on number of sexual partners and no condition by time interaction.

- The sample evidenced high levels of depression at baseline, $M = 23$ ($SD = 11$). The clinical cutoff score for the CES-D is 16 for mild depressive symptoms and 21 for moderate to severe symptoms.

- Covariate adjusted repeated measures (condition by time) analysis of variance (ANOVA) revealed a main effect of time on depression. Simple effects tests indicated a significant decrease in depressive symptoms from the 3 month to the 6 month follow-up assessment for the sample as a whole. However, there were no significant changes in depressive symptoms from baseline to post-test or from post-test to the 3 month follow-up. There was no main effect of condition on depression and no condition by time interaction, suggesting that the reduction in depression was not significantly different for S-HIM and SHP participants.

CONCLUSIONS/SUMMARY

- The results of this study suggest that participants in both the S-HIM condition and SHP condition experienced decreased sexual risk behavior and depression over time. However, only the S-HIM participants reported reductions in sexual risk behavior from baseline to post-test.

- Both S-HIM and SHP participants reported reductions in number of sexual partners from baseline to post-test, with a greater reduction observed in S-HIM participants.

- While reductions in sexual risk behavior were immediate, reductions in depressive symptoms were not found until the 6-month follow up.

- The decreases in sexual risk behavior and sexual partners were greatest at post-test, but this trend also continued from the 3 to 6 month follow-ups. The sexual decision-making skills provided in the S-HIM may have helped the men to reduce sexual risk behaviors and number of sexual partners immediately. However, the use of these skills may fluctuate over time, and participants may benefit from ongoing support for change. This may include booster sessions to maintain effects over time (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003).

- While the S-HIM curriculum more directly addressed sexual risk and depression and provided participants with skills to examine cognitive, affective, and behavioral patterns than the SHP, both interventions may have produced benefits. Both conditions showed a decrease in number of sexual partners from baseline to post-test and in depressive symptoms at the 6-month follow-up. The focus on health promotion in the SHP intervention may have encouraged men to consider areas of health not directly addressed in the SHP intervention, including sexual health.

- Emotion regulation was addressed in the SHP intervention in the context of relaxation, which may have resulted in decreased depression and risk behavior, and reduced differences between the two conditions.

- The weekly group format of both interventions may have provided social support that helped to alleviate social isolation contributing to symptoms of depression. Social support may be an important variable to incorporate in interventions for participants who endure a triple stigma of being HIV-positive and an ethnic and sexual minority. The support of other group members who were facing similar issues may have served as a buffer against rejection and racial and health stigma for these men.

- It is possible that more time may be necessary to process and absorb the benefit from the intervention to demonstrate further improvements in depression for S-HIM participants. It is also possible that the treatment dosage was simply inadequate for such a high-risk, marginalized sample.

- Overall, the sample had limited material and social resources, which when combined with their history of abuse and experiences with stigma and isolation result-

ing from their sexual identity likely contribute to the moderately high symptoms of depression in the sample.

CONTRIBUTIONS/IMPLICATIONS

- The participants in this study were materially poor and undereducated multiple minorities who were predominantly single and lacking both primary or long-term partners and family support. These factors, along with their abuse histories, are important to consider when developing sexual risk reduction interventions. Additionally, discomfort with specific sexual labels and possibly their sexual identity, may contribute to stigma, social isolation and further marginalization within their ethnic communities.

- The effects of CSA on high-risk sexual behaviors and psychosocial dysfunction are complicated by frequency with which CSA survivors experience revictimization. While the S-HIM focused on sexual ownership and linking past CSA experience with current sexual decision making, future interventions may need to also focus on adult sexual relations, including sexual abuse.

- Learning from past experiences and applying them to current adult relationships may be complicated and require longer interventions.

- The S-HIM is among the first to attempt to reduce sexual risk behaviors, number of sexual partners, and depressive symptoms among gay and non-gay identifying HIV-positive African American and Lation MSM and MSMW with histories of CSA.

- More research is needed to further understand how African American and Latino men define and apply sexual labels and how these definitions coincide with their actual sexual behaviors.

- Risk reduction interventions need to target MSM and MSMW populations while also considering ethnicity and culture and the importance of social support from family friends and community within a sociocultural context.

Deliramich, A. N., Gray, M. J. (2008). **Changes in women's sexual behavior following sexual assault.** *Behavior Modification, 32*, 611-621.

TYPE OF ARTICLE

- Original empirical investigation

OBJECTIVE/PURPOSE OF THE ARTICLE

- To evaluate whether sexual assault survivors are more likely to increase alcohol consumption posttraumatically relative to other trauma survivors and to determine whether changes in post-traumatic alcohol use predict changes in posttraumatic sexual activity.

METHODS
Participants

- The study investigated sexual behavior and alcohol consumption among sexual assault (SA) and motor vehicle accident (MVA) survivors (the control group). The study also included a comparison sample of non-sexually assaulted individuals to control for changes in sexual activity related to age or maturation.

- A total of 57 participants (28 SA and 29 MVA) were included in the study. All participants were between the ages of 18 and 25 years (SA group: $M = 20.0$, $SD = 1.77$; MVA group: $M = 19.6$, $SD = 1.68$). All participants were either female undergraduate students participating for extra credit or female community participants recruited through local advertisements.

- The mean time since the traumatic incident was 33 months ($SD = 19.8$) for the SA group and 28.2 months ($SD = 22.0$) for the MVA group.

Materials

- The Life Events Checklist (LEC) consists of 16 items inquiring about the experience of 16 different physical traumas known to result in PTSD. It also inquires about other stressful experiences. Items inquiring about SA or MVA exposure within the last 5 years were used to identify qualifying participants.

- The Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De la Fuente, & Grant, 1993) consists of 10 questions that identify alcohol consumption, drinking behavior and alcohol-related problems.

- The Sexual Health History Questionnaire SHQ; Cupitt, 1998) consists of 23 questions that assess an individual's sexual history and behavior.

Procedure

- The study was conducted in two phases. All participants were eligible for the first phase of screening to determine appropriate participants who had experienced a SA or MVA in the past 5 years.

- Students who reported a serious SA or MVA in the past 5 years were sent an e-mail invitation to participate in a subsequent related study (i.e., phase 2 of the investigation). To identify possible community participants, ads were placed in local and campus newspapers.

- During the second phase of the investigation, participants completed a demographics questionnaire and were then asked to complete the AUDIT and SHQ for two reference points: within the past month and the month prior to the trauma.

- After completion of the survey, each participant was given a short debriefing on the purpose of the survey and was asked to seek services from a referral sheet if they were experiencing any chronic emotional difficulties.

RESULTS

- To evaluate whether trauma groups differed with respect to posttraumatic alcohol consumption, a 2 (trauma type) x 2 (time) mixed-factorial ANOVA was conducted. There was no significant main effect for time, but there was a marginally significant main effect of trauma type. This effect qualified by a significant trauma type x time interaction.

- Trauma groups did not differ with respect to estimated pretraumatic alcohol use but did significantly differ with respect to estimated current alcohol use. MVA survivors reported a decrease in use posttraumatically and SA survivors reported and increase.

- To characterize changes in sexual activity as function of time and trauma type, a 2 x 2 repeated ANOVA was conducted with SHQ serving as the dependent measure. There was a significant main effect for trauma type and a marginally significant main effect of time. These main effects were qualified by a marginally significant trauma type x time interaction. SA survivors reported an overall increase in sexual activity posttrauma, where as MVA survivors reported no change.

- Because trauma groups did not differ with respect to pretraumatic sexual activity, trauma type did not significantly predict current sexual activity. Accordingly, alco-

hol consumption cannot be said to mediate the relationship between trauma type and current sexual activity.

- A hierarchical multiple regression was run to evaluate whether changes in self-reported alcohol use predicted changes in sexual activity after controlling for pretraumatic levels of sexual activity. Consistent with predictions, changes in alcohol use significantly predicted current levels of sexual activity among all participants, even after controlling for pretraumatic sexual activity levels.

CONCLUSIONS/SUMMARY

- Although most clinicians often focus on reluctance to engage in sexual activity following a SA, it is important to be aware of the diverse courses of adjustment and coping patterns following a SA.

- While many women may experience psychological distress after a SA and avoid sexual intimacy, the results of this study demonstrate that many assault survivors are as sexually active or more sexually active within a few years of their trauma.

- Relative to a comparison sample of MVA survivors, SA survivors in this study were more likely to report increases in sexual activity following their traumatic experience.

- There were no differences between trauma conditions with respect to estimated pretraumatic alcohol use, but the groups reported dramatically different courses of alcohol use post-trauma. Assault survivors reported an increase in alcohol use while a decreased was observed among MVA survivors. Assault survivors may be more likely to use alcohol to cope with their trauma than other trauma groups.

- Inclusion of an alternate trauma control group is a relative strength of the study. Based on comparisons with the MVA group, it became clear that increases in alcohol consumption and sexual activity are not the result of development or maturation.

CONTRIBUTIONS/IMPLICATIONS

- Although the increase in alcohol use observed in SA survivors post-trauma may be ineffectual in helping them cope with the trauma, it might also increase the risk of future trauma exposure such as SA revictimization. This possibility is supported by existing research document-

ing increase substance abuse among SA survivors and the associations between alcohol consumption and SA frequency.

- This offers preliminary support to the importance of careful assessment with trauma survivors. Replication of the study with larger samples and longitudinal designs would be necessary for making informed interventions.

- The study does support that extreme avoidance of post-assault sexual activity is not necessarily the modal response, nor is it representative. If clinicians assume sexual activity is uniformly avoided, they may gear therapy towards resumption of behaviors that have increased rather than ceased.

- The study findings are important as they call into question the assumption that SA survivors typically avoid sexual activity posttraumatically, and they also suggest another important reason to carefully assess and monitor posttraumatic substance abuse.

Police Suicide: Epidemic in Blue (2d edition)

By John M. Violanti, Ph.D.

Charles C. Thomas, 2007, 178 pages, Hardcover, $51.95

Dr. Violanti, in this second edition of *Police Suicide: Epidemic in Blue,* updates his previous work on police suicide, and reviews promising new research. This edition provides an array of information on prominent theories, current research, special cases (e.g., "suicide by suspect"), and the complex issues surviving family members, friends and agencies face.

He begins by reviewing prominent theories of suicide, from Freud through Shneidman and others, then introduces a theoretical model based on work socialization processes. He posits that officers develop dichotomous thinking and decision making techniques (right or wrong with no 'gray' area between), become socialized into the police role ("I am a cop"), and may develop interpersonal difficulties and/or purposely isolate themselves from society (us vs. them), all of which increases the potential for police suicide. He then effectively uses case examples to highlight his points.

He next reviews current research on police suicide, delineating the difficulties in gathering accurate police suicide data such as the resistance to acknowledging suicide as a problem in "my department," misclassification of suspicious deaths, and using inappropriate comparison groups. He reports that 17% of police suicides are likely misclassified as accidental or undetermined.

Dr. Violanti explores probable precipitants of police suicide, including relationship problems, alcohol use, inadequate sleep, constant exposure to misery and death, public apathy, and increased availability of firearms. He adds in the impact of trauma and critical incidents, plus organizational tension, on the officer's coping and perceived stress levels.

In addition, he points out the apparent increased risk of suicide after retirement due to prior trauma, relationship issues, and difficulties assuming a civilian role. Many assume that suicide risk decreases in retirement, with presumably less of the precipitants outlined above, but the research literature reveals the opposite. One of the highest rates of suicide is among older Caucasian males. Stephanie Samuels, a psychotherapist who works with police officers, provides several case studies demonstrating the challenges of retiring from the law enforcement lifestyle.

Dr. Violanti next addresses a topic of growing concern in police psychology, "suicide by suspect." He refers to this as "suicide by cop turned inside out" (also classified as "indirect self-destructive behaviors"). Many are familiar with suicide by cop, or "victim precipitated homicide," where an individual wants to complete the act of suicide but cannot bring him/herself to complete the act, so the individual deliberately provokes a law enforcement officer to shoot. In suicide by suspect, the officer wants to die but for a variety of reasons, does not want death to be an obvious suicide. Therefore, the officer either allows the suspect to use deadly force or deliberately places him/herself in harm's way where death is a likely result. Several case examples illustrate possible scenarios.

He also devotes a chapter to murder-suicide, or the "extended police suicide." His review of the literature suggests most of these cases involve a perpetrator who is male, Caucasian, older than the victim, and may have a history of depression and/or other mental illness. The victims are likely to be women who have separated or are divorced from their partners, and typically occurs in the home with a firearm. Alcohol and domestic violence are often precursors. The estimated rates of occurrence are 0.2-0.38 per 100,000.

Theresa Tate, a suicide survivor and founder of Survivors of Law Enforcement Suicide (SOLES), contributes a chapter on police suicide survivors, which includes family members, co-workers, friends, and agencies left behind following an officer's suicide. She uses case examples to highlight the need for prompt death notification, compassionate

Agency response, and the importance of educating families on the resources available both to the officer and to themselves. She also stresses the importance of having an Agency written policy and guidelines on funeral protocols for officer suicide.

Dr. Violanti closes with a chapter on suicide prevention. He offers suggestions on assessing risk, training, access to firearms, intervention, peer support, etc.. As an additional resource, please see the next review, the International Association of Chiefs of Police's "Preventing Law Enforcement Officer Suicide: A Compilation of Resources and Best Practices."

Although this is a useful book, with a profusion of resources, suggestions, and recommendations, I found it challenging to read due to the staggering number of typographical and editing errors. There are missing words, wrong words, apparent typos, non-capitalized first words, missing references, etc., sometimes occurring more than once per page. This second edition is a useful update of the first edition, but the lack of professional presentation tarnishes the final product.

John M. Violanti, Ph.D. is a research professor in the Department of Social and Preventive Medicine (SPM), School of Public Health and Health Professions at the State University of NY Buffalo and a member of the University of Buffalo medical school graduate faculty. He is a police veteran, serving with the New York State Police for 23 years as a trooper, the Bureau of Criminal Investigation (BCI), and later as a coordinator for the Psychological Assistance Program (EAP) for the New York State Police. Recent projects include the Buffalo Cardio Occupational Police Stress (BCOPS) study, research of the health and psychological effects of shift work, and police suicide. He is a respected faculty member of the Law Enforcement Wellness Association. Dr. Violanti conducts clinical research on a host of law enforcement health and wellness issues for The University of Buffalo Department of Social and Preventative Medicine. In addition to his research, Dr. Violanti has written and edited several books relating to law enforcement stress and trauma including *Police Trauma: Psychological Aftermath of Civilian Combat, Posttraumatic Stress Intervention: Challenges, Issues, and Perspectives* and *"Copicide": Concepts, Cases, and Controversies of Suicide by Cop*. He has been an invited lecturer on topics of police stress and suicide to the FBI Academy at Quantico, Virginia several times. Prior to his present work with the University of Buffalo, John was a full professor in the Department of Criminal Justice at the Rochester Institute of Technology in Rochester, New York for fifteen years.

Preventing Law Enforcement Suicide:
A Compilation of Resources and Best Practices
The International Association of Chiefs of Police
Free

Each year, more law enforcement officers complete the act of suicide than are killed in the line of duty. Many agencies lack the resources to prevent officer suicide from occurring and are unprepared to respond effectively when it does occur.

In response to this need, the International Association of Chiefs of Police (IACP); the Bureau of Justice Assistance, U.S. Department of Justice; and EEI Communications partnered to produce these resources.

Members of the IACP Police Psychological Services Section compiled this interactive CD containing suicide prevention resources from leading agencies across the country.

The purpose of this CD is to provide samples and resource materials to establish and develop suicide prevention, intervention, and postvention programs.

The CD runs in a web-based format in your web browser. The opening screen contains five major headings: Developing a suicide prevention program, sample suicide prevention materials, sample training materials, sample presentations, and sample funeral protocols. Each heading contains multiple files in a variety of formats.

For example, the suicide prevention tab contains brochures, posters, and wallet cards, in addition to suicide prevention program summaries from the Miami-Dade and Los

Angeles Police Departments ("KNOW Suicide"). Some of the material is agency specific, while other material is labeled "reproducible," meaning agency logos have been removed to allow other agencies to add their own logo prior to use. As an example, the Los Angeles Sheriff's Department (LASD) contributed two "AID LIFE" cards, one with their internal phone numbers included and one with their phone numbers removed so gaining agencies can insert their unique contact information.
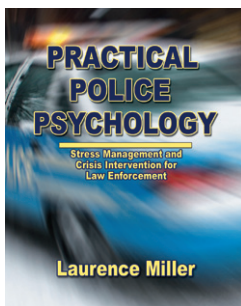
The sample training materials tab contains both the California Highway Patrol's (CHP) "Not One More" training program and Miami-Dade's prevention program. The CHP materials include detailed training notes and recommendations, plus an 18-minute video. Also included are LASD's excellent "Rolling Back Up" and CA POST's "Preventing Law Enforcement Suicide" training videos. Brochures for supervisory staff are also enclosed.

The sample funeral protocols tab is a true wealth of information on the challenging topics of death notification and funeral protocols. Although the focus of this tab shifts from suicide specific to death issues in general, the forms, protocols, and checklists will prove valuable when death impacts the workplace.

The information contained on the CD is intended for use by professional law enforcement agencies. These materials were submitted by agencies throughout the country and reflect material designed specifically for their law enforcement population. However, the material on this CD is applicable across a variety of settings both within and outside the emergency responder community.

If you are interested in obtaining a free copy of this CD, please contact Ms. Tia Young (young@theiacp.org) at IACP. Upon request, multiple copies are also available for training environments.

The Association of Traumatic Stress Specialists is an international multidisciplinary organization founded to educate and professionally certify qualified individuals actively engaged in crisis intervention, trauma services and response, and the treatment and healing of those affected by traumatic stress. The Certification Board represents individuals who have practical experience in providing direct support to trauma victims and survivors.

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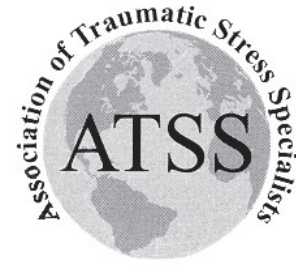Credit Card: ❏ MasterCard   ❏ Visa   ❏ Discover   ❏ AMEX

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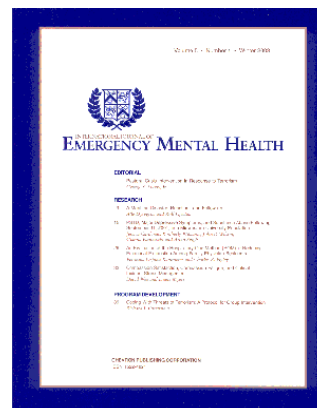**Office Manager**
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