Moving Forward From September 11: A Stress/Crisis/Trauma Response Model
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Brief Treatment and Crisis Intervention; Mar 2002; 2, 1; ProQuest Psychology Journals
pg. 55

Moving Forward From September 11: A Stress/Crisis/Trauma Response Model

Judith A. Waters, PhD, LPC

In this article, the events of September 11, 2001, and the continuing aftermath are placed in the perspective of a Stress/Crisis/Trauma Response Model that covers (a) the categories of predisposing factors contributing to the individual's level of resiliency (hardiness factor), (b) the nature, scope, and potential outcome of the actual event(s), (c) the immediate and, hopefully, transient responses (acute stress disorder), and (d) the potential long-term outcomes (e.g., physical illness, post-traumatic stress disorder, and other forms of psychopathology). Prevention activities, early interventions including emergency services, crisis intervention strategies, and treatment programs for serious mental disorders are incorporated into the model. The early intervention disaster response efforts directed towards both families and first responders following the events of September 11 are discussed. There is also a critique of the present state of mental health disaster response policy and our level of preparedness as well as a reply to that critique. [*Brief Treatment and Crisis Intervention* 2:55–74 (2002)]

KEY WORDS: trauma, stress, crisis intervention, disaster response, post-traumatic stress disorder, Critical Incident Stress Debriefing.

On September 11, 2001, at 8:48 a.m. Eastern Daylight Saving Time, an estimated 25,000 people were at work in the World Trade Center in New York City and another 25,000 employees were at work in the Pentagon in Washington, DC. It was a normal, sunny Tuesday morning in late summer. Secretaries, stockbrokers, bankers, building service workers, clerks, researchers, New York City and Port Authority personnel, shopkeepers, restaurant crews, military officers, civilian staff, and myriad other workers were busy at their desks or their usual tasks. The terrorist attacks began. At the World Trade Center, 2,838 people were killed. So far, 724 remains have been identified. One hundred eighty-five people perished at the Pentagon. Earlier that morning, several airline pilots and flight attendants, and hundreds of passengers flying for business or pleasure, began to play a role in a scenario that will stand out in recorded history

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for generations. Two hundred forty-six passengers and crew who were on board those airliners are now dead.

On the morning of September 11, uncounted numbers of firefighters, police officers, and emergency medical teams were either on duty in the New York metropolitan area and in Washington DC, or were at home prepared, as always, to respond to any emergency. When they said good-bye to their families, left home (some for the last time), and reported for duty, they were aware of the normal hazards that they face everyday "on the job." However, no one could have predicted the catastrophe that was about to overwhelm them. Close to 400 police officers, firefighters, and emergency workers are now dead.[1]

Tens of thousands of people watching television morning news programs witnessed the destruction produced by the first airliner that crashed into Tower I of the World Trade Center. Any misperceptions (perhaps wishful thinking) that this event was an accident or a media hoax were quickly dispelled by the second crash into next tower, the subsequent airliner crash into the Pentagon, and the crash into a field in Pennsylvania. The fourth crash was the result of the bravery of several passengers taking over the plane in order to avoid having it descend kamikaze-style into another major target in Washington (e.g., the White House or the Capitol Building). War had been declared.

In the days following the attack, we as a nation, along with the peoples of other nations in the world, watched almost mesmerized as the fruitless attempts to locate and rescue survivors failed. There were no more survivors. We also faced more threats in terms of biological warfare (the growing number of cases of anthrax), the mobilization of American service people, and the retaliatory bombing of the Taliban in Afghanistan. By now, most people have come to the conclusion that conflict resolution is not possible and that there are more terrorist events to come. The events of September 11 were calculated and executed carefully. Zimbardo (2001) writes, "the nation and the world remain in shock at the unimaginable devastation that has become a defining moment for this generation" (p. 49). He also warns us not to underestimate the terrorists. Their educational level, the amount of training that was involved, and their total dedication to religious-cultural ideology indicate that these are not madmen and this set of events is not a case of an isolated incident. These perceptions are critical in terms of our ability as members of the helping profession to reassure both adults and children of their future safety and security. Realistically, we cannot make any such reassurances.

In less than 1 hour following the first terrorist attack, the Red Cross national headquarters disaster mental health services staff notified the American Psychological Association (APA) Disaster Response Network (DRN) to activate the system (Daw, 2001). DRN members in New York City immediately reported to the Red Cross Manhattan headquarters. A disaster response center was quickly established to provide services to the coworkers and families of the missing and to the rescue workers. APA's Office of Public Affairs was also prepared to provide experts to discuss the psychological aspects of terrorist attacks in the media.

During the first day, Red Cross Disaster Operations Centers were opened at the Pentagon and Dulles Airport outside of Washington, DC, Logan Airport in Boston, San Francisco, Los Angeles, and Western Pennsylvania. DRN volunteers staffed all these centers. By 4:00 p.m. on September 11, both print and electronic ma-

1. The data for this section were provided by S. Becker of the *Today Show,* Fox News, The Port Authority of New York and New Jersey, The Office of the Mayor of New York City, and the *New York Times* (as of February 19, 2002).

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terials were being rapidly developed to use with children in talking about the terrorist attacks.

By the evening of September 11, licensed psychologists, social workers, and counselors had been contacted by their various professional organizations to play appropriate roles in the disaster response efforts. Wednesday, September 12 found the response program fully activated. APA had completed its "Coping with Terrorism" brochure and distributed materials on various practitioner listservs. By Thursday, APA had posted guidelines concerning terrorism on its Web site for practitioners who planned to conduct youth forums. By Friday, a group of disaster specialists had been recruited to assist federal government staff in coping with the events of the week. Even MTV had established a link to APA using its own Web site.

APA, along with other professional mental health provider organizations (e.g., The National Association of Social Workers) has dedicated whole issues of its publications to observations, theoretical analyses, and recommendations concerning our roles in disaster response (Johnson, 2001). Norinne Johnson, the current President of APA, delineates the part that mental health professionals can play in what she labels a "psychological war of terror" (p. 5). She lists the skills that we bring to the analysis of the events and the aftermath, and to the practice of crisis and trauma intervention. For example, there is our expertise in scientific method that will enable us to expand our knowledge base about "ethnopolitical warfare and terrorism" (p. 5). We are trained in theory development, the design of implementation tools to help in the rebuilding process, addressing cultural differences, and conflict resolution. As practitioners, we have listening skills, the ability to help people through the mourning process, and anger management skills. We also have the ability to foster resiliency. We can begin the theory building process by reviewing what we already know about emergencies and crises.

Conceptually, the disaster responses of the helping professions fall into three categories: (a) emergency psychiatric and medical responses that occur very often at the actual site of the disaster unless the conditions are too dangerous, (b) crisis interventions that may occur days, weeks, or months after the initial wound has been inflicted, and (c) long-term treatment for serious psychopathology. Emergency responses to a large-scale disaster are in some ways similar in structure to responses to sexual assaults (Walker, 1994). While there are procedures for dealing with the medical aspects of rape, "best practice" approaches also focus on the survivor's emotional needs. Moreover, although there are special police units set up to respond to the needs of the targets of rape, they are not always available. Just as it takes time to mobilize the DRN volunteers, police officers frequently function as the first responders in both situations. Of course, in the case of rape, they are also mandated to collect evidence and provide security at the same time that they respond to the medical and psychological needs of the survivor. How the officer treats the survivor will contribute significantly to the individual's recovery process. It is the responsibility of mental health professionals to provide effective training for law enforcement officers who will probably find themselves in similar circumstances in the future, always remembering the guiding principle of the medical profession, "First, let them do no harm." The more training we provide for first responders, the better prepared they will be.

In dealing with disasters, after the emergency medical conditions have been addressed, it is important to develop multipronged approaches that not only respond to the psychological issues but also provide other services as needed (e.g., housing). In addition, we must find effective ways to treat the needs of the secondary

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victims, the families—most especially the children.

The Stress/Crisis/Trauma Response Model

In order to understand the nature of individual responses to such stressful life events as the attacks of September 11, we need a holistic model. This model must incorporate (a) the predisposing factors that combine to produce the individual's level of hardiness or resiliency; (b) the nature and severity of the specific events(s); (c) the initial, and hopefully, transient reactions (e.g., acute stress disorder); (d) prevention and crisis intervention strategies; (e) the potential outcomes ranging from psychological growth to a return to the pre-event status quo or, alternatively, serious mental disorders (e.g., post-traumatic stress disorder [PTSD]); and (f) treatment for any pathology that does result (see Figure 1).

A viable hypothesis concerning the development of debilitating stress responses following a natural or human-induced disaster is that such behaviors are actually normal reactions (Shalev, 1996). The underlying assumption is that the source of the stress is so far beyond the average person's experience that responses that would be considered abnormal are, in fact, perfectly normal. Therefore, the reactions that occur are predictable, given the scope of the event. This explanation, however, does not guarantee recovery for everyone involved, nor does it preclude the need for early intervention or long-term treatment.

While the intensity and the nature of the immediate responses (expect more than one symptom) are also important factors in the pathway to recovery, they are only partially related to the outcomes. Other predictors include the pre-event level of vulnerability (or conversely, the level of hardiness); the type, magnitude, and duration of the original stressor; specific as well as general preparedness for the event (partially the responsibility of the government and the community and partially the responsibility of each individual); the quality of such postevent recovery factors as the support of family and friends; and the ability of professionals to deal

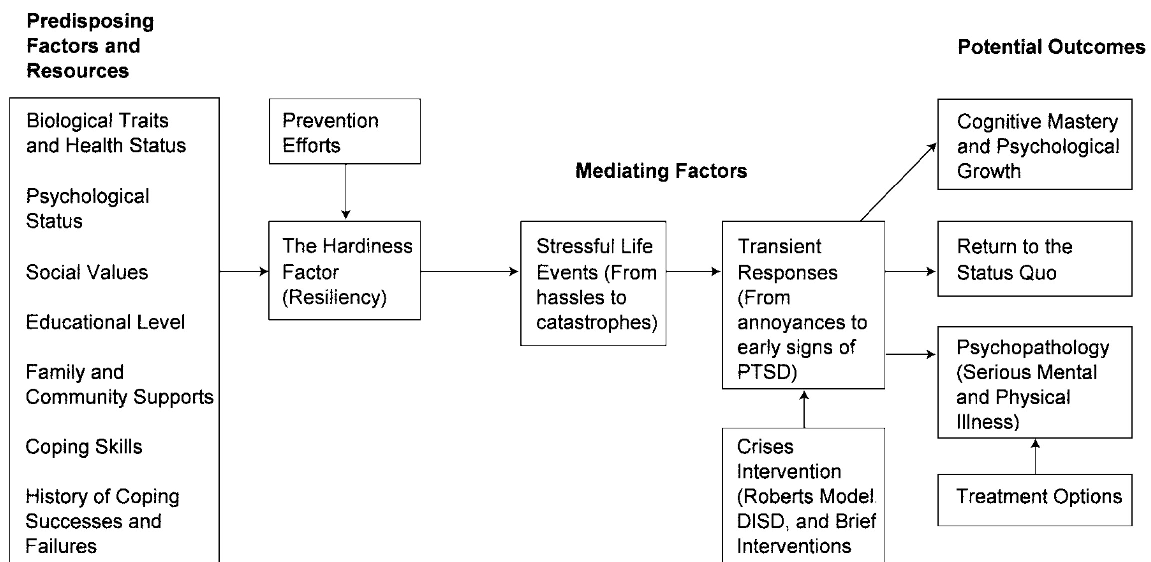

FIGURE 1
The stress/crisis/trauma flowchart. Adapted from the work of Dohrenwend and Dohrenwend (1974).

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with the situation. Making preparedness the responsibility of the individual, especially parents, is not the same as "blaming the victim." It actually treats adults as mature individuals capable of assessing the situation and taking precautions.

The Predisposing Factors

The pre-trauma predisposing factors include both genetic variables and health status. It should come as no surprise that people with a history of physical disorders are generally more vulnerable to traumatic situations than those in good health. Preexisting psychological conditions also increase vulnerability (Dohrenwend, B. P., 1961; Dohrenwend, B. S., & Dohrenwend, B. P., 1974). Having educational and financial resources increases one's options. Coping and problem-solving skills as well as good communication skills are also assets in times of stress. A history of coping with challenges, even different categories of challenges, contributes to successful outcomes. Individuals who have literally walked through the "valley of the shadow of death" and come out standing up already know that they can cope with a new threat. Family and community social supports improve the odds of the individual being able to face and recover from stress related events. These factors all contribute to each person's hardiness or resiliency level when confronted with a new stressful life event. Prevention and education efforts should be directed toward the variables that account for the hardiness factor.

The nature of a stressful life event includes the duration of the event, the probability of resolving the issues, the level of threat to life and health status, actual physical injuries plus the damage inflicted by just witnessing the event, and the "intentionality" (premeditation) of the event. The terrorists engaged in an extraordinary amount of planning and preparation for the events of September 11. Such efforts would indicate the probability of similar events in the future.

The extensive and continuing media coverage has exposed everyone within the range of a television set to the events of September 11. Moreover, people purposely watched the same sequence of events repeatedly in the weeks subsequent to the event, perhaps out of initial disbelief and perhaps out of a need to remain involved. The impact of witnessing the collapse of the World Trade Center over and over again has to have a negative influence on the anxiety and anger levels of the public.

Everyone has an initial reaction to threats (see Selye's classic, *The General Adaptation Syndrome*) that is either resolved eventually through mobilization of all of one's resources or if unresolved, results in physical and psychological exhaustion. Crisis intervention strategies implemented at the point of the initial response to any stressful life event, followed by continued interventions and referrals, can have a positive effect on short-term symptoms (Roberts, 2000). If these strategies are successful, impressive psychological growth or, at the very least, the return to the pre-trauma status quo can result. However, if there are no attempts at crisis intervention, or if the intervention is inappropriate, the outcome may be the development of serious symptoms including acute stress disorder first and then PTSD (American Psychiatric Association, 2000). At this point, the individual is in need of long-term therapy, perhaps even including hospitalization and medication to manage the anxiety and depression.

The existing literature on stressful life events has long outlined programs to treat personal losses, the outcomes of workplace violence, domestic violence, serious illness, and, most recently, large-scale disasters. (See Corcoran and Roberts, 2000, for an extensive review of research results on these programs.) Journal articles and books now cover therapeutic strategies

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for survivors and the secondary traumatization of "first responders" and families (Roberts, 2000; van der Kolk & McFarlane, 1996). Immediate action, for example, is designed not only to serve the emotional needs of victims, but also to treat others in the environment (Jones, 1998). The best combination of strategies appears to be emergency medical treatment (e.g., antidepressants) for acute stress symptoms combined with crisis intervention techniques that are contingent upon the nature of the trauma.

Many professionals, whether politicians or mental health practitioners, have stated that the world has changed following the events of September 11 and that we must be ready to face new hazards (Fowler, 2001; Zimbardo, 2001). Now, that there is the additional threat of the spread of anthrax, a nuclear attack, and/or the use of other methods of biological warfare (perhaps to contaminate our food and water supply), we may find that even the best disaster response and crisis intervention programs with demonstrable results will prove to be pitifully inadequate.

Categories of Events

Just to review the categories of stressful life events, they range in severity from the hassles of daily living to catastrophic events. The events may be categorized as *acute* with a foreseeable termination, or *chronic* (no end in sight). There may be an opportunity for a positive resolution or the probability that the end result will be grave. Some individuals tend to focus on the potential for negative consequences, always framing the outcomes in terms of the "worst case" scenario. Others have a positive bias, but may overapply the positive bias to the potential outcomes. Neither perspective is realistic. Such interpretive biases can interfere with the utilization of competent problem solving strategies.

Crises can be displayed in a matrix utilizing the duration, the severity of event, and its potential consequences as the salient variables. Examples of the matrix of crises are (a) moderately high-risk elective surgery (an acute stressor, of moderate intensity, with the potential for either a positive or a negative outcome); (b) a diagnosis of HIV infection (a shock reaction followed by a chronically high level stressor); (c) divorce (the interpretation depends on one's resources and whether or not the person is the one who has initiated the proceedings); (d) being convicted of a crime; or (e) working at an unpleasant, but not impossible job (the interpretation depends on the comparison level for alternatives and one's resources), but could constitute a chronic, possibly moderate level stressor.

When categorizing events, it is also important to analyze them according to their impact on the whole community. Threats of war, natural disasters, and other similar catastrophes have the potential to mobilize the entire population. The community can provide support for the individuals closest to the core of the disaster (e.g., coworkers, families, and rescue workers at "ground zero"). Seligman points to the positive acts of true heroism that occurred following the World Trade Center collapse (cited in Carpenter, 2001). However, whether one faces a life-threatening situation in the company of others or alone, the future can still be very bleak.

In addition to acute psychiatric emergencies, many events involve physical injuries that require long-term medical care, and incur financial debt and other losses of a similar magnitude. Deeply etched in our memories of the Oklahoma City bombing is the account of a woman who had a limb amputated, and also suffered the loss of her daughter and grandchild, all on the same day.

Some of the problems associated with recovery are not actually an unavoidable consequence of the disaster. For example, the families of the victims of the World Trade Center and the Pentagon disasters are now being subjected to red tape and poor bureaucratic policies when applying for financial aid. Some of the spouses

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have labeled the situation as tantamount to begging and very demeaning.

Reactions to Traumatic Events: Assessment, Treatment, and Recovery

There are several possible diagnostic categories that can be used for the symptoms of stress (American Psychiatric Association, 2000). It is useful to begin with initial reactions. As the first responders on the scene, police officers, paramedics, and crisis counselors should be aware that a significant number of survivors will, in all probability, experience shock, disbelief, confusion, physical pain, shaking, crying, anger, and guilt on the very first day. There is also the common problem of resentment, denial, poor concentration, and sleep difficulties as well as depression. In addition, destruction of the individual's sense of trust and security can leave him or her distrustful of everyone including mental health professionals (Walker, 1994). Koss et al. (1994) point out that responses to a traumatic event may cloud the victim's judgment. Given these reactions, however normal, it is critical that the first responders establish rapport and provide a sense of safety and trust (Roberts, 2000). Despite one's best efforts, however, it is entirely possible that the individual may not be functioning at a sufficiently coherent level to accept such assurances. If we follow Roberts's model and allot sufficient time to establishing rapport, we should be able to avoid pressuring a resistant client into engaging in an intervention when, in fact, the pressure alone could inflict damage.

Acute Stress Disorder and PTSD

Recent research has indicated that PTSD was a typical diagnosis for many individuals following the bombing of the federal building in Oklahoma City (North et al., 1999) and will be again in the present circumstances. According to the latest edition of the *Diagnostic and Statistical Manual (DSMIV-TR)* (American Psychiatric Association, 2000), in order to justify a diagnosis of PTSD, several conditions must be met: (a) The source of stress must be an extremely traumatic situation; (b) That situation must involve death, or the realistic threat of death or serious personal injury; (c) The experience must be direct or must involve a family member or close associate; (d) The person's symptoms must include "intense fear, helplessness, or horror (or in children the response must involve disorganized or agitated behavior)" (p. 463). The impact of the experience must lead to marked impairment in important areas of functioning (e.g., social relationships and occupational performance). Examples of the events that are typically labeled "traumatic" include "military combat, violent personal assault (sexual assault, physical attack, robbery, mugging, being taken hostage, terrorist attack . . ." (p. 463). Clearly, the events of September 11 qualify for this category. Just witnessing events of the magnitude of September 11 can also lead to PTSD.

Normally, PTSD symptoms appear in the first 3 months following the experience. If they occur sooner (in the first 4 weeks), the pattern is generally diagnosed as acute stress disorder. The duration of PTSD symptoms lasts over a month with a 50% recovery rate anticipated by 3 months. However, chronic symptoms can last beyond a year and can reappear when triggered by cues from the environment. A diagnosis of acute stress disorder is made when the symptoms, albeit similar to PTSD, appear within 4 weeks of the event and are resolved within the same period of time (p. 467). When the symptoms that were first labeled as acute stress disorder persist, they can be reevaluated as PTSD. Cases of PTSD are often associated with such comorbid psychiatric conditions as depressive disorder, sub-

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stance abuse, and other anxiety disorders (Brady, Killeen, Brewerton, & Lucerini, 2000).

Patients with a diagnosis of PTSD tend respond to trauma in at least one, but probably more, of the following ways: recurrent remembrances of the event causing the stress, recurrent distressing dreams about the trauma, acting or feeling as if the event were actually reoccurring, and physical reactions to cues that trigger memories of the event. PTSD-diagnosed individuals also tend to avoid the stimuli associated with their trauma, and attempt to flatten their affect regarding the event in the following ways: avoidance of thoughts or emotions related to the traumatic event, and avoidance of activities and places. Avoidant behavior is another symptom that will continue to mark the anniversary of September 11 and the personal anniversaries of lost family members (e.g., the birthday of a loved one). At the moment, short of turning off the radio and the television completely, it is difficult to avoid accounts of September 11. In an attempt to escape from these memories and threats of future terrorism, the consumption of alcohol, over-the-counter sleep medication, and hard drugs is likely to increase. The more vulnerable the individual was prior to the stressful life event, the higher the risk of substance abuse.

In the emphasis on the psychological symptoms of PTSD, we may lose sight of the physical symptoms. The physical symptoms include headaches, gastrointestinal distress, dizziness, and chest pains. Since it is difficult for the patient to distinguish between symptoms of an actual heart attack and those of an anxiety attack, people should consult a physician.

The typical pattern for crisis responses (not disaster reactions) is for the symptoms to emerge from weeks to months after the event. In the case of a disaster, symptoms may emerge on the very first day. However, there are some people who can cope effectively for years before they actually exhibit active symptoms. Sometimes, they are able to refocus their attention to priorities beyond themselves (e.g., the needs of spouses, children, aging parents, and businesses). Repressed memories of the trauma may be triggered sometimes years later. In the early weeks following the events of September 11, many of the families of the victims, especially spouses and parents, were engaged in emergency activities involving the needs of their children and grandchildren. As time passes, two problems may develop. First, the enormity of their losses may become apparent, and the support of other family members and neighbors will probably decrease. Serious symptoms may emerge for the first time. A significant number of family members and friends may begin to feel guilty for some real or imagined transgression against the victim and may break down as well.

It is interesting to note that mental health professionals are not always able to predict who will develop chronic PTSD symptoms and who will not. Sometimes, the person who initially seemed to be the most vulnerable, exhibits a surprising level of personal strength and the skills to cope with the challenges while the one who was considered the family "tower of strength" collapses.

People who appear stoic are often complimented for being strong in a time of stress. Police officers and other emergency workers are expected to maintain not only a façade of calm but also to be calm. However, they soon develop serious physical and psychological symptoms that contribute to their early mortality rate (Waters, Irons, & Finkle, 1982). Individuals with a prior history of abuse as children, or exposure to other traumatic events are also likely to develop PTSD.

A study of Vietnam veterans conducted by the Veterans Administration demonstrated that many of the veterans developed symptoms of PTSD. Their symptoms included recurrent nightmares, flattened affect, depression, and even death. Half a century before the Vietnam War, Freud first began to formulate his concept of "thanatos." During World War I, he observed

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wounded soldiers who had been predicted to recover, instead deteriorate and die. He also observed many seriously wounded soldiers who were not expected to live, actually recover, a strong testament to the human ability to survive horrendous events.

In any calendar year, the incidence of people diagnosed with PTSD is approximately 5.2 million individuals ranging in age from 18 to 54 years. The number of women with this diagnosis is double the number of men. As previously noted, symptoms can be elicited by memories of the event (commonly called "flashbacks"), sounds, sights, and smells (e.g., the smoke and dust from the World Trade Center collapse). Insomnia and waking up in the middle of the night screaming are also typical patterns.

It is clear that not everyone who experiences a traumatic life event responds with the same symptom syndromes. For example, not every soldier, even those facing the worst combat conditions, manifests symptoms of "shell shock" (presently labeled PTSD), nor will every "first responder" exhibit the same pattern of symptoms either in the initial stages or months later. Moreover, the severity of the early symptoms does not predict the appearance, the type, or severity of the later ones. The sequelae can vary from the primarily psychological to the primarily physical. The first reactions to a trauma can be identifiable signs of distress and fear while the long-term symptoms might include the development of serious physical disorders. (See the research on Holmes and Rahe's Social Readjustment Rating Scale.)

Many people, especially men, have learned how to hide their initial reactions. It has been suggested that these internalized responses may be the precursors to hypertension and heart attacks. Individuals such as emergency room doctors and nurses, law enforcement officers, firefighters, and EMTs who deal with the aftermath of disasters are at particularly high risk for burnout (Waters et al., 1982). Chronic exposure to stressful life events is a factor that contributes to a higher than normal divorce rate in law enforcement (80% in some police departments), substance abuse, physical symptoms (e.g., ulcers), and an early mortality rate that is not based on injuries sustained in the line of duty. The additional fact that law enforcement officers, who are charged with the safety of the public, must maintain their composure and remain in control at all times certainly takes a toll on their psychological resources.

Treating Acute Trauma Responses

Medications including products designed to ameliorate sleep problems (e.g., benzodiazepines) are utilized to manage severe symptoms. Psychotherapies (e.g., Cognitive Behavioral Therapy) that have a history of success with treating anxiety disorders are also applied to cases of PTSD. Crisis intervention techniques such as deep breathing exercises and other coping strategies are utilized. Family therapy is directed towards helping family members to understand stress-related symptoms, to respond to the distress of other family members, and to learn to address their own symptoms. Caregivers must be aware of the costs that they are incurring.

During World War II, people certainly suffered from "shell shock" and less dramatic stress symptoms. However, Londoners who were subjected to the Blitz in World War II managed to join together even when they were living in the "underground," listening to bombs exploding over their heads and knowing that everything they owned was being destroyed. The development of community cohesion reduced the vulnerability of each individual. It's interesting to note that in an effort to save the children from injury and death, many of them were removed from the bombing in London to villages and towns in relatively safer areas of Great Britain. Some of the British people were very surprised

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at the children's response to being separated from their families despite the safety and security that was provided for them. Anna Freud wrote that all of England was "awash." She was referring to the bedwetting problems that many of the children exhibited. In the end, it was deemed necessary to return a substantial number of the children to their families in London.

Emergencies, Crises, and Long-Term Pathology

Approaches to reducing the costs of exposure to stressful life events come in three stages: the psychiatric emergency response (which may coincide with emergency medical treatment), crisis interventions designed to reduce the impact of early symptoms, and long-term programs that treat the development of delayed overt symptoms late in the process or on the continued manifestation of the early symptoms. Emergency treatment requires rapid diagnosis of symptoms and focuses on stabilization of the individual's psychiatric status. Crisis intervention is based on a more in-depth appraisal of the total situation (e.g., presenting symptoms, the nature of the stressor, the quality of the support system, possible outcomes, and the individual's level of resiliency and pre-event stability). Treatment plans are formulated according to all the categories that contribute the diagnosis, but attempt to add an in-depth assessment of the causal factors that may account for the maintenance of symptoms in the present or the future (e.g., a preexisting condition).

In the past decade, we have become even more aware of the importance of prevention activities, immediate responses to emergency situations, and crisis intervention within a short period of time from exposure to the original stressor than we were before. We have also incorporated some of the principles of crisis intervention and brief therapy into long-term treatment programs. There was a time, for example, when the common wisdom with respect to addictions services was that the client/patient had to hit "rock bottom" before treatment could be effective. Recent research, however, indicates that the sooner an addict is admitted to a program, the better the prognosis for recovery (Waters, Roberts, & Morgen, 1997). Another widely accepted opinion was that patient involvement in the treatment process had to be completely voluntary. Now, we have evidence that mandatory treatment (i.e., court-ordered diversionary programs) can be very successful (Robertson & Waters, 1994).

The Needs of the Nation

In targeting people for interventions, we have already noted that the list of those in need of assistance goes well beyond the actual survivors and first responders to the families, and then to the next generation of responders (the construction workers clearing the debris and the medical and mental health professionals providing services). On a national level, the entire economy, not just local businesses, has been affected. Even when no one in a family has died, financial pressures can lead to stress responses and eventually to serious illness. The airlines and the ground transportation services that support the airports, vacation destinations that are generally reached by air travel, and overall consumer purchases have felt the impact of lowered consumer confidence. The population at large will be suffering the stress associated with job loss and financial insecurity in addition to the fear of biological warfare.

Crisis Intervention and Debriefing Models

As Roberts (2000) indicates, there are some basic differences within the field with respect to the

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definitions of crisis and crisis intervention, the design of programs, types of training, and requirements for certification (where certification exists). Since the classification of events as crises include such diverse circumstances as loss of a loved one, a hostage situation, domestic violence crime scene, HIV diagnosis, divorce, natural disasters, accidents, workplace violence, and rape or other types of assault, the programs must be equally specific.

The most widely accepted definition of "crisis" focuses on the threatening component of the event and also on the opportunity for change. Bard and Ellison (1974) suggest that a crisis involves a subjective reaction to the event so that the ability of the individual to cope effectively is jeopardized. The interpretation is that the crisis is not in the situation itself, but exists in the individual's perception of the event and his or her subsequent response to the event. In the case of disasters, the subjective element of stress responses may be minimal. Disasters may be accurately perceived and evaluated for just what they are, events with the potential for serious, negative consequences. The three factors that contribute to a crisis situation include (a) the hazardous event, (b) the threat to one's life goals, and (c) the inability to cope effectively (Rapoport, 1962). Roberts's (2002) most recent theoretical contribution, the ACT Model, postulates that in assessing the situation (A), one can determine if crisis intervention (C) is necessary. The "T" component in the model refers to trauma. The trauma response can be immediate (as in acute stress response) or appear after a period of time and the failure of the intervention.

The first professional responses to disastrous public events are alternatively identified as emotional and psychological "first aid," as "Band-Aids on gangrene," Critical Incident Stress Debriefing, frontline first response, and crisis stabilization (Roberts, 2000). According to Roberts, crisis intervention occurs in two phases. The first phase takes place immediately in direct response to an acute crisis episode or disaster. It utilizes statewide crisis response teams who have been professionally trained by such organizations as the APA's DRN, the American Red Cross Disaster Services, and the International Critical Incident Stress Foundation.

As previously noted, the content of the intervention reflects the nature of the event. The first task after securing a scene for potential safety problems and addressing medical emergencies, is to meet with the key personnel and develop the logistical plans of action (The American Red Cross, 2001). That includes identifying those individuals in need of immediate or early attention ("triage"). In the case of workplace violence, the list may include survivors, family members, supervisors, coworkers, witnesses, and company employees in positions similar to the original target(s) of the attack (Waters, Lynn, & Morgen, in press). The people so identified may be approached first in a group format, and then provided with individual, family, or group counseling and support (e.g., appropriate referrals). While major corporations have probably set up threat management teams, some events are so catastrophic that the available teams are overwhelmed and underprepared.

The second phase occurs later in the sequence when there is the luxury of time to explore reactions and individual resources in more depth than the original situation allowed. Crisis intervention models, while somewhat useful during the acute stress response stage immediately following the traumatic event, are actually more appropriate when the client has been stabilized. For example, Roberts's seven-stage model (2000) supplies important guidelines for reducing the costs of stressful life events. Built on the response paradigm used with potential suicides, the first stage involves assessing lethality and the clients' mental health status and the second stage focuses on establishing rapport, conveying acceptance of the client while providing reassurance. It is probable that these two stages ac-

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tually coincide. The need to prevent self- or other destructive behavior and to provide for the clients' immediate psychosocial needs (part of the first stage) are being processed by the counselor while establishing rapport and actually constitute one combined effort.

The third stage involves exploring the dimensions of the crisis situation in order to analyze its impact on the client. During the fourth stage, the counselor encourages the client to explore his or her own feelings. In the fifth stage, the counselor and the client have the opportunity to review the relative successes and failures of past coping attempts. Depending on the magnitude of the event, however, strategies that have been successful on previous occasions may not be adequate to resolve the pressures of the current situation. While the effort to restore cognitive functioning to its pre-event status is the focus of the sixth stage, such efforts probably begin during the first stage. Once an action plan has been selected and implemented, the last (seventh stage) involves the follow-up and modification process. Clients should be given the sense that they can function independently, but that continued support is available if needed. Crisis interventions typically last from 6 to 12 sessions. Hopefully, we use these rules as guidelines, not laws, and have learned that effective interventions can be accomplished in fewer sessions or may require one or two more sessions. If the needs of the client indicate continuing problems in coping, then the client should be referred for long-term therapy or the brief therapy plan should be modified.

In situations such as natural or human-induced disasters, the categories of responders expands from clinical psychologists, social workers, and professional counselors to include trained volunteers, law enforcement personal, emergency service workers, teachers, school administrators, and the untrained.

In the aftermath of September 11, the media have been presenting programs designed to educate the public about the reactions to stressful life events and the methods of treating such reactions. Information has also been placed on their Web sites (Goodman, 2001). Celebrity spots have been used to make people aware of their vulnerability and to encourage them to seek help using hotlines. Callers to those hotlines will receive information, referrals, and support (Waters & Finn, 1995).

At the present time, there are several models for addressing the needs of disaster survivors. One of the best known is Critical Incident Stress Debriefing (CISD). It has been planned as a "one-time only" group activity in which Emergency Medical Service personnel are encouraged to discuss their own experiences and reactions. There is a set of question utilized to focus their responses to the incident and to the interpretation of those responses (Everly, Lating, & Mitchell, 2000; Mitchell, 1983). The overall goals of the process are to restore the group members to their pre-event level of functioning, stabilize and reduce early symptoms, offer psychological support, and provide referrals as needed. These services are delivered as close to the disaster site as possible. As a profession, we have learned from previous errors. Shell shock and battle fatigue patients in World War II were treated by returning the patients to the United States either to Veterans Administration Hospitals or to their homes. Consequently, we increased the potential for "secondary gain." The nature of the events of September 11 will inevitably lead to modifications in many services and models. For example, more than one debriefing session will probably be considered as necessary to the process.

Debriefing can occur in a series of stages, the first being labeled the "introductory" phase (Brady, 1999). The assumption is that there is insufficient time to train personnel who have not been previously prepared to conduct "debriefing" sessions. Therefore, the introductory phase utilizes experienced trainers to outline the procedures to the staff. Training includes stressing the element of confidentiality. The second phase is labeled the "fact" stage. It enables everyone

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concerned to describe how the event has influenced his or her life. The third phase involves "thought" and reactions. It focuses on an exploration of cognitions and affect associated with the event. In the "symptom" phase, survivors discuss their physical and emotional responses. The "preparation stage" details the long-term consequences that may be experienced over the course of coming weeks and months. The "future planning" stage addresses the elements of both coping and support that are necessary for full recovery. If the individual denies the severity of the event (virtually impossible in this case) and his or her own personal emotional toll, the long-term prognosis is likely to be negative. Most approaches recommend (a) the immediate expression of feelings and (b) that the processing of intense affect should occur during the first days and weeks following the traumatic events. (See the critique at the end of the article for differing opinions.)

The Federal Building Research: The Case for Early Interventions

Research from the aftermath of the bombing of the Federal Building in Oklahoma City supports the contention that serious symptoms can follow traumatic events. A study of the impact of the bombing on the survivors (North et al., 1999) yielded significant rates of PTSD, diagnostic comorbidity, functional impairment, and a set of predictors of postdisaster psychopathology. The data collection involved 182 adult survivors (out of a list of a possible 255 from a confidential registry). Each survivor was interviewed approximately 6 months after the event. The researchers were able to identify eight psychiatric disorders, collect demographic information, assess levels of functioning, record treatment efforts, evaluate level of exposure to the event, assess the involvement of family and friends, and gather data on physical injuries. The results indicated that at the 6-month point, 45% of the survivors had exhibited psychiatric symptoms, and that over 34% were diagnosed with PTSD. The onset of PTSD occurred almost immediately with 76% reporting same day onset. Many of the survivors manifested the PTSD symptoms of avoidance and numbing. These patients also had a diagnosis of psychiatric comorbidity, functional impairment, intrusive reexperience, and hyper-arousal. The predictors of pathology included level of exposure, gender (female), and the existence of predisaster psychiatric disorders.

Community Responses at "Ground Zero"

Like the Londoners during World War II, initial reports of the days following the attacks on the Twin Towers and the Pentagon depict a population bent on helping the survivors and the police, firefighters, and EMTs charged with clearing "ground zero." It seemed, even to the casual observer, as if physical activity would cure the grief and anxiety felt by almost, but not, everyone (there was also looting). So much food was brought to the site that much of it probably went to waste. There were so many volunteers that they became unmanageable and were told to go home.

Many therapists are accustomed to addressing the problems of clients, one at a time. This pattern can minimize the influence of the circumstances and the commonality of the experience for everyone directly involved. The strength of the community could be utilized to improve the health status of the nation, community by community. As an interesting aside, we may not want to remove fear responses completely. That might actually be dysfunctional. Since we are at war, we need continued vigilance. At any rate, many government pronouncements designed to reduce fear in the public, at the present time, seem to have had the opposite effect.

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On September 11, the first priority was helping the survivors of each of the attacks and calming the unrealistic fears of a justifiably anxious public. However, using "spin control" and minimizing very real threats only led to suspicions about the reliability of official government sources and to a continuing lack of preparedness. We must remain aware of the fact that conflict resolution efforts are not viable strategies in a situation where neither party is in the "latitude of acceptance" of the other side.

To the Taliban leaders, the United States represents a way of life that is the exact opposite of their beliefs. To them, terrorism seems to be the only effective strategy. American culture, as represented by such television shows as *Baywatch,* infuriates fundamentalist believers (Todd, 2001). V. S. Naipaul, a new Nobel laureate, states that Islam, most especially the converted people (in Pakistan, Indonesia, Malaysia, and Iran), has an "imperial drive" to spread its beliefs beyond its own people and "root out the unbeliever" (Shatz, 2001, p. 19). If we accept Naipaul's explanations of the events of September 11 as the product of religious hatred, then continued vigilance and preparations for siege will become as common as going to the supermarket used to be. What really surprised this author was the length of time between the first World Trade Center attack in 1993 and the subsequent trial and the retaliatory events of September 11. Since the terrorists seem to have infinite patience, all efforts at crisis management must be set in the context of a continuing war.

The Toll on Children, Adolescents, Senior Citizens, and People with Disabilities

The terrorist attacks on the World Trade Center and the Pentagon on September 11 have focused attention on both acute stress disorder and PTSD (the debilitating condition that occurs after exposure to a life-threatening event that can interfere with people's ability to function normally for months or even years). Moreover, PTSD is not restricted to adults, but can affect children as well. The three most frequently expressed worries that concern children are (a) fears of physical illness and health issues, (b) anxieties about school, and (c) apprehension about physical harm (Rice, 2000). This event may have touched on all three categories. In times of disaster, children fear their own mortality at an early age and the potential danger to their parents and friends. The fallout for children from traumatic events such as those of September 11, the previous World Trade Center attack, the destruction of the Federal Building in Oklahoma City, and various natural disasters is an increased dependency on parents, teachers, and other adults. These fears may be directly expressed or lead to regressive behaviors.

The terrorist attacks on September 11, the military response of the United States, and the anthrax threat have already directly affected large numbers of children whose parents were victims. All children, however, whether directly affected or not, who watched these events are in need of support from their families, the educational system, and mental health professionals. On September 13, MSNBC and the *Today Show* put advice for parents about how to handle information on terrorism on their Web site (Goodman, 2001). The advice dealt with how to handle the questions and fears of children in different age groups. One of the most important issues focused on just how much information parents should provide and how much exposure children should have to the television accounts of the attacks and the aftermath. Goodman points out that these decisions should be based on the child's age and personality. However, children hear different stories from other children so it is probably best to prepare them for what they will learn from their peers and not attempt to shield them.

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According to Goodman, preschool children may be the most disturbed age cohort since they can easily confuse fact and fantasy and become overwhelmed by what they see and hear. Although school-age children are capable of distinguishing between reality and imagination, they are also aware of the enormity of the attacks, the level of destruction, and the continuing American response. Our news coverage includes Taliban reports that their children have been killed in Allied air raids. There is no reason to suppose that future terrorist plans for the United States will avoid killing children here. Older children will have figured that out for themselves. Although children should be able to separate fact and fantasy and realize that the same incidents (e.g., the collapse of the Twin Towers) are actually being depicted on the news over and over again, it should be noted that many of the adults who initially viewed the destruction of the World Trade Center thought that it was a media hoax similar to Orson Welles's "War of the Worlds." It certainly had an unreal quality (again, perhaps wishful thinking on our part). Consequently, it should come as no surprise that some children are confused.

Most adolescents are certainly aware of the political implications of the situation. Given the difficulty of finding Osama bin Laden, they may anticipate that this conflict will last long enough for them to go into the army. At the present time, however, they may need to take personal action including helping the recovery effort in some tangible way.

Some parents have discussed the possibility of future events with older children and have made contingency plans in case of another terrorist attack. Even elementary school children have been given cellular phones. "Safe" sites have also been set up for children. Many families have also begun to reevaluate their priorities. Some of these behaviors represent initial reactions that may dissipate after a period of time has passed. On the other hand, if conditions remain the same, a state of vigilance will need to be maintained.

Not everyone, adult or child, has reacted to the events of September 11. Some families, including the children, seem to be anesthetized to current world events, focusing instead on their own more immediate problems of daily living. In high crime areas, the problem of survival is much closer to home and has been a way of life for too many years (Kotlowitz, 1991). In other surroundings, children appear to ignore the meaning of the terrorist events as if they were merely playing video games or watching television crime programs. A third group of children who seem to be avoiding any discussion or thought of the terrorist attacks are children who were deeply affected by such threats as the attack on the students of Columbine High School. They may have already reached a ceiling on their levels of arousal due to these events and the serious problems in their own schools. Thus, the self-protective response is to deny or distort reality or the relevance of that reality to their lives.

While problems in rural and suburban schools are threatening, many urban schools, especially those in high crime areas, have put up signs stating that they are addressing the issues, that they are, in fact, in "drug-free" school districts. In a recent trip to Brooklyn, however, this author saw a sign reading that the school district was "GUN-FREE," a chilling commentary on the world where these children try to learn and play. Children growing up in Newark, New Jersey recognize that they are living in the "Wild, Wild West," even if they hadn't read it in the graffiti on the apartment house walls in the projects. Children growing up in similar projects in Chicago are also living in a war zone (Kotlowitz, 1991). They are forced to duck under windows in their own apartments for fear of being shot accidentally or purposefully.

If children do not ask questions themselves, parents should begin a dialogue by asking children what they have heard. Watching the news

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together is good way to initiate the conversation. It is best not to pressure the child to talk immediately, but to take whatever opportunities arise to elicit feelings, especially fears. It is also important not to trivialize the child's opinions or dismiss his or her fears. Minimizing the child's perspective can effectively close down communication and leave the child with a sense of inferiority and insecurity. The maintenance of a normal routine will reestablish a sense of stability during a time that is confusing for everyone of every age.

Some schools have already addressed the issues associated with terrorism, having been guided by school psychologists and trauma experts. Others have chosen not to discuss the events at all. In any case, parents should be made aware of the school's decision one way or another and act accordingly.

There has been less of a focus on the needs of seniors and people with disabilities than on the problems of children, adolescents, and adults, in general, in this time of national crisis. In fact, the emphasis, in the best of times, is not usually on the care of seniors or disabled people in any society. However, we must plan intelligently for both groups, most especially the fragile and chronically ill. Clearly, taking care of their physical needs (e.g., safety and security considerations) will reduce some of their apprehensions about the future. Individuals who live either at home with family members or in a facility where competent assistance can be provided will be less fearful about surviving another attack. Families who assist or care for older or disabled family members should have a survival kit that includes necessities such as a supply of their medications, clothing, water, and special instructions for continued care. The psychological issues of seniors and the disabled are not very different from those of the rest of the population. They need the opportunity to discuss their feelings, perhaps in sessions at senior citizen centers, but most assuredly with their immediate families. The problem is that many seniors grew up in cultures and in an age cohort where people did not express their fears, or any feelings for that matter, openly. There are also gender differences in self-disclosure that will prohibit men from talking about their reactions to the events of September 11, except to say that they wish to be young enough to join the military. Even hardy seniors may still be concerned about their ability to survive an emergency. There were accounts of the World Trade Center bombing in 1993 and the heroes who rescued people who were infirm, carrying them from upper floors. There were also stories dating from September 11 of people who could not negotiate the stairs and returned to their offices, only to die in the buildings.

Critique of Early Response Strategies

Large scale disasters, such as the bombing of the Federal Building in Oklahoma City, earthquakes, floods, and hurricanes, function as a call to action for mental health professionals from a broad spectrum of backgrounds and levels of expertise in responding to traumas. However, these efforts are not without criticism even within the field. Less than a week after the September 11 tragedies, an open letter was published from a group of 19 psychologists headed by Dr. James D. Herbert of Hahnemann University in Philadelphia, and including Dr. Edna Foa of the University of Pennsylvania and an expert on PTSDs, Dr. Richard McNally of Harvard University and an expert on the effects of trauma, Dr. Gerald Rosen of the University of Washington in Seattle, and Dr. Richard Gist of the University of Missouri-Kansas City and assistant to the director of the Fire Department in Kansas City, Missouri (Goode, 2001; Herbert, 2001). Essentially, on the positive side, the letter acknowledges the good instincts of psychologists to offer help in these situations. It

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also suggests that there are tasks that we are prepared to perform. However, the basic premise of the letter is that some interventions have the potential to inflict more harm than good. The writers point out the danger that if we are not familiar with responses to disasters, we could misdiagnose symptoms such as startle reactions, sleep problems, intrusive images, and intense sadness, when, in fact, these are "normal" reactions to events of the magnitude of the terrorist attacks of September 11. Needless to say, there was a retort from other professionals who suggest that there is a risk in accepting this attitude. It could, for example, deter survivors from accepting or requesting the services designed to ameliorate short-term symptoms and to reduce the potential for negative long-term consequences. The American Red Cross Disaster Services (1991, 2001) warns people not to ignore stress and grief symptoms since long-term consequences can include substance abuse, marital discord, and other emotional problems, problems that can be even more damaging without emergency and crisis interventions. They also provide advice to the survivors, suggesting that they should be willing to accept the support that is offered in "the spirit in which it is given" (p. 2). Of course, not everyone who has been exposed to such traumatic events is capable of accepting even the most sincere efforts on the part of counselors. Consequently, psychologists, social workers, and other professionally trained counselors must be prepared to retreat when necessary. Dr. Jeffrey Mitchell, president of the International Critical Incident Stress Foundation and a former firefighter and paramedic, states that there are badly trained therapists who do act "inappropriately intrusive" (Goode, 2001, p. 21) and that the majority of survivors who have experienced such a traumatic event are likely to recover and, thus, should not be forced to discuss their feelings. Mitchell also notes that there are many studies that demonstrate the value of early interventions.

APA asks that we separate the responses of the APA American Red Cross Disaster Response Network from the program being criticized by Herbert and his colleagues (2001). According to APA (2001), its program is not based on "debriefing" techniques and utilizes only licensed professionals who have been given specific disaster mental health training. Moreover, access to the disaster site is strictly controlled. In response to Herbert's letter, APA does acknowledge that while some people find it helpful to talk about their feelings, others do not. An experienced clinician should be capable of assessing the signs of resistance, stepping back, and supporting people in utilizing their own coping strategies.

The debate will most assuredly continue since there is evidence for both positions. In the meantime, in recognition of the pressing need for specialized training by disaster experts, the New York City chapter of the International Society for Traumatic Stress Studies gave a series of workshops for professionals beginning on September 13 at Fordham University, the Lincoln Center Campus in Manhattan. Academic programs that prepare mental health professionals for practice will now incorporate trauma response training into their curricula, if they have not already done so (Smith, 2001). Continuing education efforts for professionals in the field will add sessions that address specific trauma response issues. For example, even the most experienced therapists, when functioning in a disaster situation, find that they are primarily treating strangers not clients with whom they have already established rapport. In fact, there is the additional challenge that they may never see these individuals again and, therefore, cannot build on the initial session. Masterson (cited in Glater, 2001) notes that the simple act of introducing oneself as a therapist (or more threatening still, a psychiatrist) may trigger fears in the client that the situation is worse than it really is.

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Since we are all participants in a situation that may continue for a considerable length of time, there are other professional issues that we must address. There is the danger of countertransference in that the therapist can all too easily identify with the clients (Glater, 2001). In addition, being exposed to so many horrendous stories, hour after hour, may have a serious impact on the caregivers leading to sleep disorders and other stress related symptoms.

Conclusions

While we must be realistic and acknowledge past problems with emergency responses to disasters and the continued potential for inappropriate interventions (there are always poorly trained and badly screened individuals in every profession), we should be able to design or modify existing programs to reduce the harm that results from terrorism and other disasters. As a prevention strategy, perhaps we should be introducing training in coping strategies into our school curriculum at every level for both teachers and students. Some faculty have incorporated discussions of the events of September 11 into existing courses while others have already designed new courses (e.g., "The Psychology of Traumatic and Stressful Life Events" at the University of Miami) (Smith, 2001). Most institutions of higher learning with social work, counseling, and clinical psychology graduate programs sometimes offer crisis intervention and stress management. Continuing education divisions will be listing lectures and classes in crisis intervention for the general public as well as for professionals in the future.

As we, as a nation, continue to mobilize our resources in response to the ongoing threat, we must also take the time to conduct more research than we have in the past. Seligman (cited in Carpenter, 2001) suggests that we gather together the brightest social scientists and ask them to "brainstorm" and design programs to solve some of our most pressing problems. The problem may stem from the fact that many of us have been so deeply involved in the delivery of services that we have not had the time to evaluate the efficacy of those efforts and utilize the results to inform the design of our programs. The summons to arms should impel us to do a better job on all fronts than we have in the past by assessing our progress as we work.

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