Chapter 19

Building Resilience to Mass Trauma Events

Betty J. Pfefferbaum, Dori B. Reissman, Rose L. Pfefferbaum, Richard W. Klomp, and Robin H. Gurwitch

19.1. INTRODUCTION

Terrorist attacks and continuing threats coupled with frequent disasters of natural and accidental origin compel the attention of professionals involved in injury and violence prevention interventions. Potential psychosocial consequences associated with terrorism and disasters include distress, changed attitudes and behavior, and psychiatric morbidity. Although psychiatric morbidity, including but not limited to posttraumatic stress disorder (PTSD), is generally confined to individuals directly affected or endangered by an incident or those with close ties to victims and survivors, less severe reactions may be pervasive and extend to people outside the immediate vicinity of an event. These reactions can be addressed on an individual basis or in small groups (such as within families, in the workplace, or in school classrooms) and through a variety of medical and psychosocial interventions before, during, and after the disaster. Another approach—one that complements attention to individual needs—is for elected, appointed, or informal leaders, in concert with a diverse mixture of community coalitions, to prevent or reduce adverse psychological, health, and social outcomes through building community resilience. This may also be a more comprehensive health protection strategy. This chapter provides a preliminary framework for examining community resilience in relation to mass trauma events.

19.2. TERMS AND CONCEPTS

A number of terms—including community, community disaster, terrorism, and resilience—warrant definition to set the stage for a discussion of building community resilience to avert or reduce the harmful physical, social, and mental health consequences of mass trauma.

19.2.1. Community

Communities traditionally have been viewed as being made up of individuals sharing origin, history, culture, values, laws, and geographic proximity, though there may be considerable diversity among individual members and groups. A community includes the organizations and structures within its boundaries, a sense of relatedness, and common health risks and conditions. Community members live and work in the same dynamic environment and are affected by similar social, economic, and physical risk factors. Communities reflect perceptions, beliefs, and attitudes that influence behavior. The potential for interaction among members is essential because without it, values and norms cannot be shared. The social system associated with a community provides services and addresses problems including those of its own making (Institute of Medicine [IOM], 2003; Issel, 2004; Jerusalem, Kaniasty, Lehman, Ritter, & Turnbull, 1995; Kulig, 2000). Traditional notions of community must be broadened in light of modern technology, which fosters networks that transcend conventional limits of physical proximity and boundaries, networks that place the community within a larger suprasystem of heterogeneous communities linked by a common social order or applied technology.

19.2.2. Community Disaster

Disasters result from endogenous or exogenous forces, of natural or human origin, which overwhelm the resources of a community. They include floods, hurricanes, earthquakes, airplane crashes, chemical leaks, major urban power outages, school shootings, violent rampages, and suicide bombings. Community disasters are characterized by mass destruction of such severity as to warrant assistance from outside the community (Yahmed & Koob, 1996). Often of sudden and unexpected onset, disasters frequently kill and maim those in the way, damage property and deplete resources, disrupt routines, generate physical and emotional reactions, and alter social networks and processes. Disasters change a community by altering, at least temporarily, the way individuals relate to each other, social roles, the rules governing behavior, the social organization, and the allocation and use of resources, thus threatening the functioning of the community (Eränen & Liebkind, 1993; Sjoberg, 1962). The ensuing emotional, physical, and communal injuries associated with events of this magnitude potentially interfere with productive interactions that could reestablish coactive existence. Social support can be mobilized or may deteriorate after a disaster, depending in part on the characteristics of the community, its members, and the disaster itself (Jerusalem et al., 1995).

The Buffalo Creek flood of 1972 provides an example of utter devastation wrought by disaster. The mining community was decimated when a dam broke, unleashing a torrent of water and sludge that destroyed homes and the countryside, killing many residents, and severing the emotional bonds and mutual concern that had characterized Buffalo Creek. A community unusually rich in social capital—born of common heritage and tradition; a shared history of physical, economic, and social adversity; and individual emotional investment in public welfare—was torn asunder by the flood. Contributing factors exacerbated the situation, leaving residents fearful, isolated, apathetic, and demoralized (Erikson, 1976).

19.2.3. Terrorism

Terrorism is a type of community disaster that involves the illegal or threatened use of force to coerce societies or governments by inducing fear and mistrust in their populations. Terrorism is an extreme form of violence directed at more than the individual; it is an attack on the will of a people. Typically motivated by ideology and politics, terrorism is "primarily a psychological assault that erodes our sense of safety and sense of security, two of the most basic human needs" (IOM, 2004, p. 24). The intended consequences of terrorism extend beyond the death and injury of those in the immediate path of an attack, the grief of loved ones, the ruin of property, the disruption of government and commerce, and the chaos and confusion that lie in its wake. The consequences include, as evidenced by the word itself, the terror that infests an environment and the emotional repercussions that result.

The emotional, behavioral, and attitudinal consequences of terrorism are designed to undermine political and social structures. The terrorist target is the community, in its broadest sense, not simply the geographic space or even the individuals themselves but rather that which binds them: their culture, values, mores, government, and laws; their sense of belonging and relatedness; and their systems for addressing problems and delivering services. The psychological effects (emotional, behavioral, and cognitive changes and psychiatric disorders) on the population at large are a primary concern (IOM, 2004). True psychiatric morbidity is likely to occur only in those most directly affected by an incident or those who have close relationships with victims and survivors. Other reactions include anger, mistrust, a sense of isolation, feelings of personal vulnerability, recognition of one's own mortality, a lost sense of control over one's environment, and a shattered worldview (Difede, Apfeldorf, Cloitre, Spielman, & Perry, 1997; Ofman, Mastria, & Steinbery, 1995).

19.2.4. Resilience

Resilience is the ability to execute efficient and effective adjustment processes to alleviate stress and restore equilibrium in the face of trauma, tragedy, and threat (Steinberg & Ritzmann, 1990). Resilience is an ongoing process—involving attitudes, beliefs, behaviors, and even physical functioning—that must be sustained over time and support growth. Resources and skills associated with resilience can be cultivated and practiced (American Psychological Association [APA], 2005; Reissman, Klomp, Kent, & Pfefferbaum, 2004).

19.3. COMMUNITY RESILIENCE

Community resilience is grounded in the ability of community members to take meaningful, deliberate, collective action to remedy the effect of a problem, including the ability to interpret the environment, intervene, and move on. More than the ability of members to cope individually, community resilience involves interactions as a collective unit. It serves a community by fortifying it against a host of social concerns such as violence, crime, and poverty as well as terrorism and other disasters. Community resilience also addresses behavioral and functional problems at the individual level such as abuse, absenteeism, excessive risk taking, and injuries. Consisting of both reactive and proactive elements, community resilience couples

recovery from adversity with efforts by individuals and groups to transform their environments to mitigate future events. As such, community resilience is not simply returning to homeostasis; it entails the potential to grow from the crisis (Brown & Kulig, 1996–1997; Kulig, 2000). These transformational characteristics are part of what distinguishes community resilience from social capital. Community resilience includes, but is more than, a web of relationships or network of accessible resources.

Multiple disciplines including health and public health, sociology, and psychology are beginning to recognize community resilience as a preparedness strategy for mass casualty events and as a mechanism to prevent adverse psychological, psychosomatic, and social consequences associated with terrorism and other disasters (Friedman, 2005). The concept of community resilience, still new to the lexicon, is related to community health and associated concepts such as community capacity, competence, cohesion, mobilization, and empowerment. For example, the community capacity and competence literature has identified factors that can be used to characterize community resilience (Cottrell, 1976; Gibbon, Labonte, & Laverack, 2002; Goeppinger & Baglioni, 1985; Goodman et al., 1998; Labonte & Laverack, 2001). We drew on this literature to identify seven interrelated factors associated with community resilience. These factors were endorsed by a panel of experts convened by the Centers for Disease Control and Prevention (CDC) and the Terrorism and Disaster Branch (TDB) of the National Center for Child Traumatic Stress: connectedness, commitment, and shared values; participation; structure, roles, and responsibilities; resources; support and nurturance; critical reflection and skill building; and communication. This preliminary set of factors awaits empirical examination and validation in relation to community resilience, terrorism, and disasters. Literature and research from an array of related topics in community development may suggest additional factors and help formulate activities to enhance their development.

19.3.1. Connectedness, Commitment, and Shared Values

Community membership implies connection to a place and a group of people with shared history, laws, and social mores. The sense of belonging may be strengthened if members perceive their personal well-being as deriving from and their needs fulfilled through affiliation with the community. A strong commitment to the community and relationships characterized by mutual concern and benefit should contribute to consensus building and collaboration. Communities that embrace diversity among members may be better able to address their needs in the face of adversity.

19.3.2. Participation

Participation may strengthen the sense of belonging. Communities that foster and facilitate member involvement in activities and organizations may be better able to identify and address issues through local cooperation and civic engagement. Opportunities for involvement should be sensitive to the diversity, ability, and interests of members. When participation is deemed important, members are likely to derive increased benefit from involvement, thus helping the community address needs and problems that arise in conjunction with disasters as well as those that occur more commonly.

19.3.3. Structure, Roles, and Responsibilities

Communities include individuals, groups, and organizations with reciprocal links that form overlapping networks. In communities characterized by resilience, interactions are frequent, supportive, and collaborative, with individuals and groups identifying and addressing common concerns. Solutions may emerge from new associations that form to resolve issues. Communities with strong and responsive leadership; able teamwork; clear organizational structures; and well-defined roles, responsibilities, and lines of authority can further adaptation and recovery. Community resilience appears to be enhanced when differences in roles and responsibilities reflect an appreciation for equity rather than discrimination and when community standards, rules, and procedures facilitate social interaction and governance. Communities must manage relations with the larger society, accepting, working with, and supporting other communities.

19.3.4. Resources

A community's resources include those belonging to its members and those that are attached to the community itself. In addition to land and raw materials, communities have physical capital, which creates an infrastructure and tools for the community, and human resources, which provide a workforce and expertise and leadership for development. The relationships and support systems within a community along with characteristics such as cohesion constitute social resources. Communities characterized by resilience acquire, mobilize, allocate, and use resources effectively. Resilience is likely to necessitate ongoing investment in physical, human, and social capital, such as improvements in schools and health facilities, job training, and neighborhood development.

19.3.5. Support and Nurturance

Support and nurturance are important in enhancing resilience at the community and individual levels. Supportive and nurturing communities attend to the needs of their members and help them achieve goals and overcome problems. Supportive and nurturing communities provide opportunities for members to be heard, promote member well-being, instill hope, and empower individuals and groups. Communities should become more resilient through the process of providing support and nurturance. Support and nurturance may be enhanced when communities become more adept at identifying, acquiring, and equitably distributing resources within community boundaries and with the larger society.

19.3.6. Critical Reflection and Skill Building

Resilient communities are characterized by the ability to identify and address issues, needs, and problems; establish structures to collect, analyze, and use information; and develop the means to plan, manage, and evaluate activities and programs. Critical reflection about values, the community's history, and the experiences of others, should enable local leaders to reason, set goals, make decisions, and develop and implement strategies for the betterment of the population. Learning, accommodation, and growth may lead to a sense of self-determination and enhanced capacity.

19.3.7. Communication

Community resilience is reinforced by effective, clear, and accurate communication among members and across boundaries. Effective communication requires common meanings and understandings and the perception of openness and honesty. Members and groups should have opportunities to articulate their needs, views, and attitudes, especially if diversity is to be addressed and supported. Open and productive communication can further the community's trust in leadership, increasing the likelihood of participation and compliance with directives in the face of disasters.

The operating assumption is that communities with higher levels of the seven factors will be more effective at mitigating negative emotional responses to a community disaster during and after the event. Community resilience–building activities need not focus directly on disaster-related issues to accomplish the desired reduction in adverse emotional reactions to mass trauma.

19.4. PREDICTORS OF INDIVIDUAL EMOTIONAL OUTCOME

Developing community resilience with respect to the mental health consequences of terrorism and disasters requires an understanding of the factors that influence individual outcomes. An ecological approach to health recognizes the importance of interconnectedness among biological, behavioral, physical, and socioenvironmental domains. A population's health is determined by micro influences (e.g., gender and age differences in susceptability to a disease) and by macro influences (e.g., social, economic, cultural, and environmental conditions and policies) (IOM, 2003). For terrorism and disasters, each person's reactions are influenced by individual characteristics, the nature of the event, individual exposure, and aspects of the recovery environment.

19.4.1. Predisposing Individual Characteristics

Demographic characteristics and preexisting psychiatric conditions are among the individual factors that have been examined in relation to disaster trauma (Bromet & Dew, 1995; Norris, Friedman, & Watson, 2002; Norris et al., 2002). Disaster studies that have examined gender have typically found women more likely than men to report stress, distress, and PTSD symptoms. Gender may also interact with other factors such as culture and appraisal of the event to produce adverse outcomes. Age effects are less clear and may depend on social, cultural, and economic factors. Although ethnic minorities may experience greater adverse outcomes to disasters, these may reflect differential exposure and more fragile surroundings rather than greater inherent vulnerability. Preexisting emotional problems also influence post-disaster outcomes (Norris, Friedman, & Watson, 2002; Norris et al., 2002).

19.4.2. Characteristics of the Disaster and Exposure

Although human-caused disasters have been described as more pathogenic than natural disasters to the extent that culpability can be established (Weisaeth & Tønessen, 2003), this conclusion is not universally supported (Rubonis &

Bickman, 1991). Other aspects of disasters—such as casualty rates and the horror associated with an experience—may be more important than whether the disaster is natural or human made (Reissman, Spencer, Tanielian, & Stein, 2005). Differences in methodology and timing of studies make it difficult to compare outcomes across disasters. Using a consistent approach to examine the survivors of natural disasters, technological accidents, and deliberate human-caused events, North and colleagues demonstrated greater psychiatric morbidity associated with human-caused events (McMillen, North, & Smith, 2000; North et al., 1999; North & Smith, 1990; North, Smith, McCool, & Lightcap, 1989; North, Smith, McCool, & Shea, 1989; North, Smith, & Spitznagel, 1994). After an extensive review of the disaster mental health literature, these researchers also concluded that severe emotional impairment was more likely in mass violence than in technological or natural disasters (Norris, Friedman, & Watson, 2002; Norris et al., 2002).

Qualitative and quantitative aspects of disaster exposure are important determinants of psychological outcome. In the case of terrorism, distinctions in exposure deserve special attention because the intended and potential targets extend beyond those physically present at an attack site (North & Pfefferbaum, 2004; Pfefferbaum, 2003). Direct exposure occurs in individuals physically present at a disaster site and those infected or contaminated by a hazardous agent. Eyewitnesses to an event, especially those in close enough proximity to experience potential danger, are considered directly exposed even if they did not sustain obvious physical injury. Less direct forms of exposure occur through interpersonal relationships with victims and survivors and through secondary negative consequences of an event such as disruption of daily life. Remotely affected segments of the population, those located outside the community where an event occurs, are affected through membership in the greater society (North & Pfefferbaum, 2004; Pfefferbaum, 2003).

Quantitative aspects of disaster exposure may be described with reference to a dose response measured in physical proximity, sensory effects (such as seeing, hearing, or feeling), number of specific stressors associated with an incident, injury, loss and grief, property damage, financial burden, and duration and recurrence of exposure. For biological, chemical, nuclear, and radiological incidents, dose, lethality, and spread of the agent are key considerations. The relative importance of these and other factors are likely to differ in accordance with the event and qualitative aspects of exposure (Reissman et al., 2005).

19.4.3. Aspects of the Recovery Environment

The recovery environment and characteristics of the community in which a disaster occurs also contribute to emotional outcomes of community members. A community with a well-organized response that provides prompt health and medical assessment and intervention, communicates accurate and necessary information, reestablishes social roles, and returns to known sources of social support can reduce harm and facilitate recovery for community members and the community as a whole (Holloway, Norwood, Fullerton, Engel, & Ursano, 1997). The recovery environment not only affects outcomes, but may be changed by the event via secondary sequelae (e.g., enduring disruption and chaos, possible dislocation and relocation of community members, and economic hardship) (Becker, 2001).

19.4.4. A Caveat

Community resilience is not simply derived from a collection of resilient residents; the whole is more than the sum of the parts. The fallacies of composition and division caution that it is erroneous to assume that what is true of the parts is also necessarily true of the whole and, the reverse, that what is true of the whole is necessarily true of the units making it up (Holowchak, 2004). A collection of resilient individuals does not guarantee resilience in the community, nor does resilience at the community level ensure that all individuals are resilient.

One cannot easily divorce the individual from his or her community for they are durably entwined—especially, it would seem, in the case of resilience. Individual resilience is fostered through, among other things, supportive relationships and connectedness (APA, 2005; Reissman et al., 2004), which are at the heart of community. For the most part, therefore, one might expect positive externalities to be associated with increased individual resilience. Thus increased individual resilience may benefit both others in the community and the community as a whole.

19.5. DEVELOPING COMMUNITY RESILIENCE: PUBLIC HEALTH LEADERSHIP'S ROLE

Community resilience building is a population-based prevention approach with implications for individuals and groups within the community. Population-based prevention strategies recognize that disease risk occurs on a continuum, that the majority of a population falls in the middle of the continuum rather than at the extremes, and that individual risk cannot be considered in isolation from population risk. A universal population-based prevention intervention would focus on modifying risk for the entire population rather than on individuals at especially high risk (IOM, 2003; Rose, 1981), thus creating what has been termed the *prevention paradox* because significant benefits accrue to the community at large rather than to each individual member (Rose, 1981). Selective and indicated prevention interventions focus, respectively, on individuals with elevated risk and those who are symptomatic. While indicated preventive measures are usually provided within the context of clinical practice, selective and indicated interventions could be used in conjunction with or integrated into a community resilience building approach.

Various sectors in a community—such as business, education, health, mental health, local government, and faith- and community-based organizations—have common and unique functions in developing, maintaining, and enhancing community resilience. These functions can be addressed in relationship to the seven community resilience factors described earlier. First responders, for example, can participate in community activities and help develop local resources while working, as many already do, with schools, local businesses, and other community groups to increase awareness of hazards, teach safety, and describe roles and responsibilities associated with emergency response. Businesses can partner with local organizations in advancing community goals and can participate in disaster preparedness and continuity planning. In addition to developing specialized skills in disaster mental health, mental health professionals can work with others in the community to de-stigmatize mental health service use.

All sectors must learn about the roles, responsibilities, and resources associated with each sector. Partnering within and across sectors in mental health

preparedness can enhance connectedness, participation, and communication and can facilitate the integration of mental health in the daily lives of community members. Efforts to become culturally proficient typically require critical reflection and communication, thus buttressing those skills while fostering the development of support and nurturance. Motivated community leaders can appoint advisory groups with diverse membership to identify practical interventions for their local environment. Participation and connectedness can be exercised as a community comes together to inform its members about threats, vulnerabilities, potential outcomes, effective preparedness, and response strategies. To a large extent, community resilience is built, resources are enhanced, and roles and responsibilities are defined by making all factors operational.

Turning Point, launched in 1997 as an initiative of the Robert Wood Johnson Foundation and the W. K. Kellogg Foundation, employs concepts associated with community resilience building to transform and strengthen the nation's public health system by making it more community based and collaborative. Recognizing that the underlying causes of poor health are related to social issues too complex to be addressed solely by disease models of intervention, Turning Point links public health agencies and their partners to other sectors within a community (such as education, criminal justice, faith communities, and business) and brings health-conscious people and organizations together to address the community's health. In doing so, Turning Point helps communities take meaningful, deliberate, collective action to improve the public's health, thereby fostering community resilience. Local Turning Point partners collaborate to gather data, develop consensus about local priority health issues, mobilize local resources, create action plans to address health priorities, communicate local needs and priorities, and inform the development of effective health policy (Turning Point, 2003).

The Federal Emergency Management Agency approach to disaster response also illustrates concepts in community resilience in its reliance on local resources to address problems at the closest possible organizational and jurisdictional level while providing national capability to address broader regional and national issues. In the aftermath of a disaster, many people experience disruption and loss but most do not see themselves as needing mental health services (Substance Abuse and Mental Health Services Administration, 2005). A federal mental health response is initiated in presidentially declared disasters, when state and local resources are inadequate to address the need. Services include outreach and public education, crisis intervention, and support services for common reactions that arise after disaster's (rather than traditional mental health treatment for psychiatric illnesses). The federal response relies on local providers and networks to create a system that includes triage and referral and that promotes access by using programs with a local cultural base. The response builds on the strength of the community, reinforcing services as necessary during the early stages of recovery. By training and using local providers in disaster response, this approach contributes to community capacity building, fosters community participation and cohesion, and promotes a sense of community efficacy and empowerment—all of which enhance and strengthen community resilience.

Although community resilience building is within the scope of activities of all stakeholders, it is a particularly appropriate function of public health. As part of an illness prevention and community wellness agenda, public health can foster preparedness planning and practice drills as the norm at all levels and across all sectors, encouraging ongoing review and revision of plans based on new threats

and emerging methods for responding to them. Working with emergency management, public health can assist community volunteers and neighborhood organizations to improve local disaster response capabilities. Depending on context, public health can help redefine first responders to include health care workers, business people, school personnel, essential service workers, and community members. Public health can also assist first responder organizations in reviewing and establishing lines of authority and responsibility within and across bureaucratic boundaries, facilitate cooperative relationships, and promote joint training and cross-training.

As part of public health education strategies for community resilience building, community members can be trained in psychological first aid. Individuals can be taught personal resilience building skills that can be reinforced in times of disaster. Public health can join with mental health in the essential effort to destigmatize mental health problems. Communities can be sensitized to the cultural and ethnic diversity of their members and come to value that diversity for the potential it creates. Media, an essential community partner, can be engaged in developing public service announcements based on principles of effective risk communication.

With its command of public resources, limited as they may be, and connections to nongovernmental organizations, public health is in a position to help identify, inventory, and map resources and to develop plans for resource allocation and deployment. Public health can serve an organizing and integrating function, linking mental health programs to other services including health care and social services; businesses and schools; and neighborhood, faith-based, and cultural organizations. Public health can also foster leadership and community development, civic engagement, and attention to health in public and private policies across the full spectrum of social concerns, including communication, commerce, transportation, education, and social welfare (IOM, 2003).

The investigation of community resilience is still in its infancy; but clearly, it holds promise as a construct for and approach to preventing adverse mental health outcomes associated with terrorism and disasters. Factors in community resilience, which warrant further examination and clarification, can guide development of specific prevention interventions in community resilience building.

REFERENCES

American Psychological Association. (2005). *Fostering resilience in response to terrorism: A fact sheet for psychologists working with adults.* Retrieved May 14, 2005, from www.apahelpcenter.org/featuredtopics/feature.php?id=6.

Becker, S. M. (2001). Psychosocial effects of radiation accidents. In I. A. Gusev, A. K. Guskova, & F. A. Mettler (Eds.), *Medical management of radiation accidents* (pp. 519–525, 2nd ed.). Boca Raton, FL: CRC Press.

Bromet, E., & Dew, M. A. (1995). Review of psychiatric epidemiologic research on disasters. *Epidemiologic Reviews, 17* (1), 113–119.

Brown, D. D., & Kulig, J. C. (1996–1997). The concept of resiliency: Theoretical lessons from community research. *Health & Canadian Society, 4* (1), 29–50.

Cottrell, L. S., Jr. (1976). The competent community. In B. H. Kaplan, R. N. Wilson, & A. H. Leighton (Eds.), *Further explorations in social psychiatry* (pp. 195–209). New York: Basic Books.

Difede, J., Apfeldorf, W. J., Cloitre, M., Spielman, L. A., & Perry, S. W. (1997). Acute psychiatric responses to the explosion at the World Trade Center: A case series. *Journal of Nervous & Mental Disease, 185* (8), 519–522.

Eränen, L., & Liebkind, K. (1993). Coping with disaster: The helping behavior of communities and individuals. In J. P. Wilson & B. Raphael (Eds.), *International handbook of traumatic stress syndromes* (pp. 957–964). New York: Plenum Press.

Erikson, K. T. (1976). *Everything in its path: Destruction of community in the Buffalo Creek flood.* New York: Simon & Schuster.

Friedman, M. J. (2005). Toward a public mental health approach for survivors of terrorism. *Journal of Aggression, Maltreatment & Trauma, 10* (1–2), 527–539.

Gibbon, M., Labonte, R., & Laverack, G. (2002). Evaluating community capacity. *Health & Social Care in the Community, 10* (6), 485–491.

Goeppinger, J., & Baglioni, A. J. Jr. (1985). Community competence: A positive approach to needs assessment. *American Journal of Community Psychology, 13* (5), 507–523.

Goodman, R. M., Speers, M. A., McLeroy, K., Fawcett, S., Kegler, M., Parker, E., Smith, S. R., Sterling, T. D., & Wallerstein, N. (1998). Identifying and defining the dimensions of community capacity to provide a basis for measurement. *Health Education & Behavior, 25* (3), 258–278.

Holloway, H. C., Norwood, A. E., Fullerton, C. S., Engel, C. C., Jr., & Ursano, R. J. (1997). The threat of biological weapons: Prophylaxis and mitigation of psychological and social consequences. *Journal of the American Medical Association, 278* (5), 425–427.

Holowchak, M. A. (2004). *Critical reasoning and philosophy: A concise guide to reading, evaluating, and writing philosophical works.* Lanham, MD: Rowman & Littlefield.

Institute of Medicine (2003). *The future of the public's health in the 21st century.* Washington, DC: National Academies Press.

Institute of Medicine (2004). *Preparing for the psychological consequences of terrorism: A public health strategy.* Washington, DC: National Academies Press.

Issel, L. M. (2004). *Health program planning and evaluation: A practical, systematic approach for community health.* Boston: Jones & Bartlett.

Jerusalem, M., Kaniasty, K., Lehman, D. R., Ritter, C., & Turnbull, G. J. (1995). Individual and community stress: Integration of approaches at different levels. In S. E. Hobfoll & M. W. de Vries (Eds.), *Extreme stress and communities: Impact and intervention* (pp. 105–129). Dordrecht, Netherlands: Kluwer Academic.

Kulig, J. C. (2000). Community resiliency: The potential for community health nursing theory development. *Public Health Nursing, 17* (5), 374–385.

Labonte, R., & Laverack, G. (2001). Capacity building in health promotion, Part 1: For whom? And for what purpose? *Critical Public Health, 11* (2), 111–127.

McMillen, J. C., North, C. S., & Smith, E. M. (2000). What parts of PTSD are normal: Intrusion, avoidance, or arousal? Data from the Northridge, California, earthquake. *Journal of Traumatic Stress, 13* (1), 57–75.

Norris, F. H., Friedman, M. J., & Watson, P. J. (2002). 60,000 Disaster victims speak: Part II. Summary and implications of the disaster mental health research. *Psychiatry, 65* (3), 240–260.

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

North, C. S., Nixon, S. J., Shariat, S., Mallonee, S., McMillen, J. C., Spitznagel, E. L., & Smith, E. M. (1999). Psychiatric disorders among survivors of the Oklahoma City bombing. *Journal of the American Medical Association, 282* (8), 755–762.

North, C. S., & Pfefferbaum, B. (2004). The state of research on the mental health effects of terrorism. *Epidemiologia e Psichiatria Sociale, 13* (1), 4–9.

North, C. S., & Smith, E. M. (1990). Post-traumatic stress disorder in disaster survivors. *Comprehensive Therapy, 16* (12), 3–9.

North, C. S., Smith, E. M., McCool, R. E., & Lightcap, P. E. (1989). Acute postdisaster coping and adjustment. *Journal of Traumatic Stress, 2* (3), 353–360.

North, C. S., Smith, E. M., McCool, R. E., & Shea, J. M. (1989). Short-term psychopathology in eyewitnesses to mass murder. *Hospital & Community Psychiatry, 40* (12), 1293–1295.

North, C. S., Smith, E. M., & Spitznagel, E. L. (1994). Posttraumatic stress disorder in survivors of a mass shooting. *American Journal of Psychiatry, 151* (1), 82–88.

Ofman, P. S., Mastria, M. A., & Steinberg, J. (1995). Mental health response to terrorism: The World Trade Center bombing. *Journal of Mental Health Counseling, 17* (3), 312–320.

Pfefferbaum, B. (2003). Victims of terrorism and the media. In A. Silke (Ed.), *Terrorists, victims and society: Psychological perspectives on terrorism and its consequences.* (pp. 175–187) West Sussex, UK: Wiley.

Reissman, D. B., Klomp, R. W., Kent, A. T., & Pfefferbaum, B. (2004). Exploring psychological resilience in the face of terrorism. *Psychiatric Annals, 33* (8), 626–632.

Reissman, D. B., Spencer, S., Tanielian, T. L., & Stein, B. D. (2005). Integrating behavioral aspects into community preparedness and response systems. *Journal of Aggression, Maltreatment & Trauma, 10* (3–4), 707–720.

Rose, G. (1981). Strategy of prevention: Lessons from cardiovascular disease. *British Medical Journal, 282*, 1847–1851.

Rubonis, A. V., & Bickman, L. (1991). Psychological impairment in the wake of disaster: The disaster-psychopathology relationship. *Psychological Bulletin, 109* (3), 384–399.

Sjoberg, G. (1962). Disasters and social change. In G. W. Baker & D. W. Chapman (Eds.), *Man and society in disaster* (pp. 356–384). New York: Basic Books.

Steinberg, A., & Ritzmann, R. F. (1990). A living systems approach to understanding the concept of stress. *Behavioral Science, 35*, 138–146.

Substance Abuse and Mental Health Services Administration. (2005). *Federal Emergency Management Agency (FEMA) mental health training manual*. Retrieved May 14, 2005, from www.mentalhealth.samhsa.gov/cmhs/EmergencyServices/.

Turning Point. (2003). *Turning Point: Collaborating for a new century in public health*. Retrieved June 21, 2005, from www.turningpointprogram.org/Pages/New_TP_brochure.pdf.

Weisaeth, L., & Tønessen, A. (2003). Responses of individuals and groups to consequences of technological disasters and radiation exposure. In R. J. Ursano, C. S. Fullerton, & A. E. Norwood (Eds.), *Terrorism and disaster* (pp. 209–235). Cambridge, UK: Cambridge University Press.

Yahmed, S. B., & Koob, P. (1996). Health sector approach to vulnerability reduction and emergency preparedness. *World Health Statistics Quarterly, 49*, 172–178.