

## PSYCHOLOGICAL SCIENCE AND TERRORISM: MAKING PSYCHOLOGICAL ISSUES PART OF OUR PLANNING AND TECHNOLOGY

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One of the primary objectives of terrorism is to create a widespread sense of vulnerability. The attacks of September 11, 2001, along with the anthrax mailings, clearly achieved this goal throughout the United States. It is understandable that the government and other social institutions have responded by committing massive amounts of our resources to improved security, such as detection and surveillance systems, military readiness, vaccine or antidote development, and intelligence services. The news media has extensively reported on our reactions to terrorist acts, yet our nation has invested very little in the science of psychology, which could provide many benefits to children and adults during the “war on terror.”

To engage social and behavioral scientists in lending their expertise during this national crisis, the American Psychological Association passed a resolution on December 12, 2001, outlining five major avenues for action:

- Use psychological knowledge and expertise to alleviate stress, anxiety, and fear among the public.
- Increase the use of behavioral knowledge to deal with the threat and impact of terrorism.
- Study the roots of terrorism and methods to defeat it.
- Study the prevention and treatment of trauma-related problems.
- Combat prejudice leading to violence and hate crimes.

We have a considerable amount of research documenting the effects of trauma – including terrorism-related trauma. We can document numerous acute short-term, and serious long-term, negative effects when people are directly exposed to trauma, and the rise in diagnosable psychiatric disorders is striking. The most common are anxiety disorders, especially Acute Stress Disorder, Posttraumatic Stress Disorder (PTSD), Generalized Anxiety Disorder, Agoraphobia, and Separation Anxiety Disorder. Mood disorders, especially Major Depressive Disorder and Dysthymic Disorder, often emerge in circumstances where the person is experiencing bereavement, substantial economic loss, occupational disruption, or forced resettlement because of violent acts of terrorism. Aside from clinical syndromes, many people experience a decrease in adaptive functioning which is reflected in diminished performance on occupational or educational tasks, increased use of alcohol, tobacco, and other psychoactive substances, and restriction of normal routines and activities. At a

more subtle level, underlying attitudes and beliefs about the world are shaped by terrorism; this is reflected in a changed view of social justice, suspicions about racial or ethnic groups, and diminished expectations for the future.

The conceptual models we now have for explaining and predicting psychological effects are quite advanced and well validated. We believe there is a dose-response effect for trauma exposure whereby certain experiences produce increasingly severe reactions. The psychological effect is directly proportional to: the duration of the experience, the intensity of the experience, and the type of exposure (direct threat of harm, witnessing grotesque scenes, bereavement, serious personal injury). The news media may inadvertently amplify and increase traumatic exposure for a wide segment of the population by showing graphic and emotionally-laden images of terrorist acts and the aftermath; in previous eras, the public could only imagine such a scene of violence, whereas today we can experience it over and over again in Technicolor. Although the dose-response phenomenon is the first rule of thumb, science has also documented individual differences in reacting to trauma exposure. Those at risk for more intense reactions include persons with: pre-existing vulnerabilities (e.g., prior exposure, anxiety sensitivity), ongoing stress and disruption in their lives, little access to social support, lower levels of education and economic resources, and ineffective coping skills (e.g., denial of events, extreme avoidance).

In the U.S., we lack the infrastructure, organization, and communication systems to apply our scientific knowledge at a national level so that we can help our citizens cope psychologically with the aftermath of terrorism this past year and the threat of future attacks. Psychologists have developed a number of promising interventions based on validated models for children, adolescents, and adults who already exhibit (or seem likely to develop) significant adjustment difficulties related to traumatic exposure. Surveys with children and adolescents in the Manhattan public schools conducted six months after the September 11 attacks indicated that 25% of respondents displayed significant symptoms of one or more of the previously noted psychiatric disorders. The proportion of children with symptoms increased notably in schools closer to the World Trade Center, especially among those who directly witnessed more traumatic events, suffered injury or loss of a family member, and sustained economic loss due to the attack. Despite all the attention, sympathy and money donated to help people in Manhattan and surrounding areas, only one-third of the children with pronounced psychiatric symptoms had any contact with a counselor, psychologist, or other mental health provider in the six months after the attack.

As a nation, we have invested in deterrence, surveillance, and revenge rather than addressing the profound psychological costs of terrorism. To be fair, concern for mental health in the past decade has become much more a part of disaster response plans among relief organizations such as the Federal Emergency Management Agency (FEMA) and the American Red Cross.

However, these agencies focus primarily on the acute, crisis phases of disasters, leaving resource allocation for long-term care to local or state systems. Responsibility is inevitably turned over to local mental health centers, private practitioners, religious or community groups, and public schools. Few of these local agencies have access to the expertise, organizational structure, trained staff, and financial resources to mount an effective, science-based response to a catastrophic event such as the September 11 attacks. We find ourselves at a strange juncture: we have a relatively sophisticated science-based knowledge of psychology, but we have not successfully put it into practice for our citizens during this national crisis.

Thoughtful leadership from the scientific community is sorely needed in the current debate on resource allocation during the “war on terror.” Among the many avenues for potential action, it is important to emphasize broader uses for terrorism-related technology and systems. It seems particularly shortsighted to invest a huge amount of our resources in single-use systems (i.e., only useful following the terrorist attacks) at the expense of investments in psychological health. Psychological science has much to offer the public in positive ways to prepare, respond, and cope with terrorism and other traumatic events (e.g., natural disasters, bereavement, severe life adversity). The failure to incorporate psychological research in our policies and procedures for disaster plans represents a major lapse in our vision and our commitment to the public welfare. And the way intellectual leaders respond to the current crisis will shape the next generation’s attitudes and beliefs about the value and benefit of the scientific endeavor.