

Research Highlights

After 9/11: Stress and Coping Across America

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As survivors of natural disasters, violent crimes, and war attest, people who are victims or witnesses of a traumatic event often experience symptoms of stress, sometimes for years after. But events in recent years have taught us that individuals need not be present at a catastrophic event to experience stress symptoms.

The terrorist attacks that shook the United States on September 11, 2001 were immediately broadcast on TV screens across the nation. Remarkable video footage that showed the events and their aftermath in graphic detail was repeatedly aired after the attacks. Many Americans may have identified with the victims or perceived the unprecedented attacks as directed at themselves as well. Thus, even people who were nowhere near the locations of the attacks might have experienced substantial stress responses.

Our Survey

We assembled a team of researchers who designed and conducted a telephone survey of a nationally representative sample of U.S. households three to five days after the attacks. The purpose of the survey was to determine the immediate reactions of adults to the events and their perceptions of their children's reactions. Our primary goal was to learn whether people around the country experienced symptoms of stress at rates anywhere near those of people who lived within close proximity. In addition, we hoped to learn something about how people coped with their reactions.

Some Questions We Asked

Adults

Since Tuesday, have you been bothered by:

	Substantial Stress (%)
Feeling very upset when something reminds you of what happened?	30
Repeated disturbing memories, thoughts, or dreams about what happened?	16
Having difficulty concentrating?	14
Trouble falling or staying asleep?	11
Feeling irritable or having angry outbursts?	9

At least one of the above?

44

(Possible responses were "not at all," "a little bit," "moderately," "quite a bit," and "extremely.")

Substantial stress was defined as an answer of "quite a bit" or "extremely.")

Children

Since Tuesday, has your child been:

Avoiding talking or hearing about what happened?	18
Having trouble keeping his or her mind on things and concentrating?	12
Having trouble falling or staying asleep?	10
Losing his or her temper or being irritable?	10
Having nightmares?	6

At least one of the above?

35

Worried about his or her safety or the safety of a loved one?

47

(For children, stress was defined as a response of "yes" on a two-point scale ["yes," "no"]).

Most Adults and Many Children Showed Signs of Stress

Ninety percent of the adults surveyed reported experiencing, to at least some degree, one or more symptoms, and 44 percent of the adults reported a substantial level of at least one symptom of stress (see box, "Some Questions We Asked"). While those closest to the sites of attack had the most substantial stress, respondents throughout the country, from large cities to small communities, reported stress symptoms: 36 percent of respondents over 1,000 miles from the World Trade Center reported substantial stress reactions, compared with 60 percent of those within 100 miles of the site.

Studies have shown that children who were exposed solely through television to such horrifying events as the Challenger disaster, the Oklahoma City bombing, and the Gulf War experienced trauma-related stress reactions. We found that children were also profoundly affected by the events of September 11. Thirty-five percent of parents reported that their children showed one or more signs of stress, and 47 percent reported that their children were worried about their own safety or the safety of a loved one.

The Contribution of Television

Adults watched an average of eight hours of TV coverage of the attacks on September 11, with nearly a fifth of the survey respondents reporting that they watched 13 hours or more. Those who watched the most television reported the most stress.

According to parental reports, children watched an average of three hours of TV coverage about the attacks, with older children watching significantly more than younger ones. Among children whose parents did not try to limit their television viewing, watching more television was associated with having more symptoms of stress.

We cannot say whether more TV viewing precipitated higher stress levels. For some people, television may have been a source of information about the situation and what to do, and therefore may have provided a positive means of coping with stress. Others, especially children, may have reacted to the repeated viewing of terrifying images with heightened anxiety.

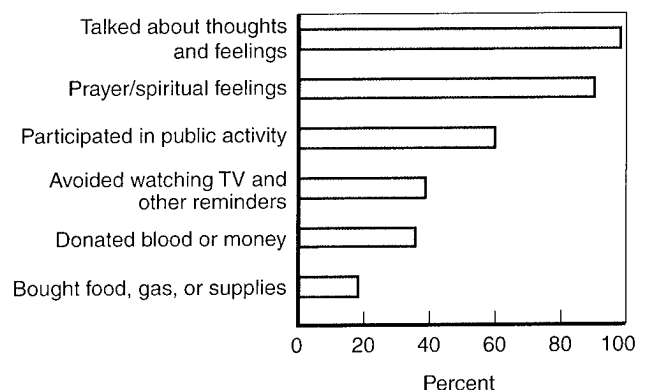
Other Ways of Coping

We found that people responded to the tragic events of September 11 in a variety of ways (see the figure). Most people turned to others for social support, and many turned to their religion or another source of spiritual guidance. More than 30 percent donated money or blood, about 20 percent said they began to stockpile things like food or gas, and 60 percent reported participating in group activities like memorials or vigils, which can provide a sense of community.

About 40 percent of people reported avoiding activities (like watching television) that reminded them of the events. Health professionals have tended to regard avoidance as an impediment to the emotional processing needed for recovery from trauma. However, under these unusual circumstances and in the face of continuous TV coverage, avoidance may not necessarily have been an unhealthy response.

Professional organizations like the American Academy of Pediatrics recommend that during crises, parents consider limiting their children's television viewing of the crisis and speak with them about it. Nearly all parents we surveyed spoke with their children about the attacks. More than 80 percent of parents reported talking with their children for an hour or more, and 14 percent spoke with their children for a total of more than nine hours about the attacks. About a third of parents tried to limit the amount of TV news their children watched: Parents

How Did People Cope?



of younger children and of children who had more stress symptoms were more likely to limit their children's TV viewing.

What Next?

Studies of reactions to prior crises have shown that for most people with indirect exposure, stress reactions wane with time. However, the unprecedented nature of the events of September 11, coupled with the continued TV coverage and the ongoing threats that have followed, lead us to speculate that the psychological impact may not diminish as rapidly for some people. Reminders of the events may trigger a recurrence of stress symptoms for some. We are now performing a follow-up survey to assess how people's initial responses have changed with time and to what extent individuals' immediate responses predict later symptoms.

Because interventions are most effective when begun soon after the precipitating event, we hope to identify early signs

that children—or adults—need help and ways to respond to their needs. We also hope to identify activities that proved to be positive coping responses. Providing clinicians, clergy and other spiritual leaders, employers, teachers, school counselors, and others with this kind of information should enable them to respond quickly, as soon as symptoms appear, and guide people to more positive ways of coping in the event of further disasters of this magnitude.

This Highlight summarizes RAND research reported in the following publication:

Schuster, M. A., B. D. Stein, L. H. Jaycox, R. L. Collins, G. N. Marshall, M. N. Elliott, A. J. Zhou, D. E. Kanouse, J. L. Morrison, S. H. Berry. "A National Survey of Stress Reactions After the September 11, 2001, Terrorist Attacks." *New England Journal of Medicine*. Vol. 345, No. 20, November 15, 2001, pp. 1507–1512.

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