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After a Disaster, Kids Suffer Posttraumatic Stress Too

By Anita Hamilton

Popular wisdom has long held that young children survive traumatic events better than adults do, in part because they suffer less. Being too young to understand fully the nature of what's happening around them — during war or natural disaster, for instance — they should bounce back with much more resilience.

But new research on child survivors of Hurricane Katrina and witnesses of the 9/11 terrorist attacks suggests otherwise. "There is increasing evidence that kids know what is going on if they are directly exposed and see something like planes crashing into the [World Trade Center] towers," says child psychologist Claude Chemtob of New York University, lead author of one of several new papers on children and disaster, published in a special section of the July and August issue of *Child Development*. ([See the top 10 scientific discoveries of 2009.](#))

Together, the new studies show that young children and teens not only exhibit symptoms of posttraumatic stress and depression that are similar to those of adults, but that they may react more strongly to trauma *because* adults do. They also show that younger children and girls are more likely to develop symptoms of posttraumatic stress disorder (PTSD) than boys and older kids.

In the first two studies, researchers analyzed the long-term effects on children and their parents of the 9/11 attacks. In one analysis, led by Chemtob, researchers followed 116 preschool children and their mothers in Lower Manhattan who had been directly exposed to the World Trade Center attacks. Interviews were conducted with the mothers and with the children's preschool teachers nearly three years after 9/11. ([See pictures of the World Trade Center's destruction.](#))

Chemtob found that compared with children whose mothers did not report symptoms of PTSD or depression, those whose mothers were affected were three times more likely to be emotionally reactive — being clingy and quick to become upset — and seven times more likely to exhibit aggressive behavior three years after the traumatic events. "Kids are very attuned to their moms because moms send cues to their kids about what's safe and what's not. If Mom is less available and more focused on the fearful aspects of life, then she is not

helping," Chemtob says.

In contrast, a second study on 9/11 that looked at more than 400 children, aged 12 to 20, and their mothers, found that those who were directly exposed to the attacks — those who witnessed the planes hit the towers, for example — were only slightly more likely to suffer PTSD than children who did not directly experience the trauma, but were significantly more likely to be depressed. Only 4% of these children had PTSD 15 months after the attacks, but 12% were depressed.

Notably, this study, led by child-development researcher Elizabeth Gershoff of the University of Texas at Austin, mirrors the findings of a 2008 study that Chemtob conducted with the same group of children involved in his current paper. In the 2008 study, he also found that children who were directly exposed to the events of 9/11 — seeing dead or injured people, watching people jump out of a building or witnessing a tower collapse — were three times more likely to be depressed or anxious than those who were not directly exposed. "We have tended to say that young kids don't need help, but in fact they are very vulnerable," says Chemtob. ([See pictures of an army town coping with PTSD.](#))

Chemtob's and Gershoff's conclusions are further supported by two other studies appearing in the current issue of *Child Development* on the child survivors of Hurricane Katrina. In the first study, a team of researchers from Louisiana State University (LSU) interviewed 387 public schoolchildren in St. Bernard Parish, one of the areas most devastated by Katrina, and found that young children were more profoundly affected than adolescents. Three years after the hurricane, children between the ages of 9 and 11 were four times more likely to show symptoms of PTSD than were teenagers between the ages of 15 and 18.

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Although the study reported that behavioral problems among the study sample had decreased overall over time — with nearly half of the children showing no lasting signs of stress — more than 25% of the younger kids were still exhibiting significant symptoms of PTSD and depression, such as feeling sad or nervous and having trouble sleeping or concentrating.

It may be that older children had more emotional resources to call on, which made it easier for them to bounce back. "Whereas younger children are more dependent on their caretakers, adolescents can turn to their friends or others in the community," says Joy Osofsky, a child psychologist at LSU who co-authored the study. Indeed, the children who fared best post-Katrina were those whose schools were quickly rebuilt and who had supportive relationships, both at home and at school. ([Read "Study Points at a Clear-Cut Way to Diagnose PTSD."](#))

Despite the age advantage, girls of any age were twice as likely as boys to have problems adapting after the disaster — an effect reported by both Osofsky's current research as well as several prior studies. One

explanation, put forth by the second Katrina study in *Child Development*, is that girls may simply be more expressive of their feelings of stress than boys are, even if boys have the same emotions. In the study, which analyzed saliva samples from 62 boys and girls between the ages of 12 and 19 who had been relocated to camps after the hurricane, researchers found no significant difference in levels of salivary cortisol, a hormone associated with stress, between the genders.

Jacob Vigil, a psychologist at the University of New Mexico and lead author of the study, hypothesizes that the differences in the way boys and girls react to trauma may be due to social conditioning rather than actual physiological effects. It may also be possible that similar levels of stress hormones affect males and females differently.

Past studies have shown that PTSD is more likely to manifest itself in boys as [concentration](#) and behavioral problems, while girls tend to exhibit emotional reactions like guilt and anxiety. "Girls tend to internalize their problems, whereas boys are more likely to act out," says Gershoff. Other common symptoms of the disorder may include nightmares, upsetting thoughts about the past trauma, avoidance of reminders of the event and persistent worrying about more bad things happening.

Although there was no significant difference in the levels of cortisol in boys and girls in Vigil's study, he did note that cortisol levels in the traumatized population of kids living in relocation camps were lower on average than those of a control group. That suggests the Katrina survivors had lived with constant stress for so long that they had become almost inured to its effect — they became less reactive to relatively minor, day-to-day stressors. "It's like a rubber band that gets stretched too much. Folks who are not reactive to stress seem to have more stress in their life," notes Vigil. Low cortisol levels have been associated with depression in adults, and while depression is a separate condition from PTSD, they share many of the same symptoms such as trouble sleeping and concentrating.

Child advocates say that one way to minimize long-term PTSD in kids is to provide them with the same level of psychological support that is regularly offered to adults. "It is important that kids have access to mental-health services right after a disaster," says Gershoff. "We can't just assume that kids are going to get over it. They need someone who can help them cope," especially when their parents can't.

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