CHAPTER 15

Young Children and Disasters

Lessons Learned from Hurricane Katrina about the Impact of Disasters and Postdisaster Recovery

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If I only had my old room back, I'd be good.
—5-year-old after Hurricane Katrina

Disasters affect the lives of millions of children each year, causing immense hardship and suffering. The traumatic experiences for children and their families include displacement, loss of homes and personal property, economic hardship, loss of community and social supports, and, at times, injury and death of loved ones. Although frequently less emphasized, young children are particularly vulnerable to being traumatized by disasters, with the impact mediated by the responses of parents, caregivers, and other adults in their environment. With protection and support, most children are resilient following a disaster. However, because the environment during and after a disaster may be very confusing for young children, it is common for them to appear numb, unresponsive, and anxious. The behaviors and emotions that follow reflect their anxiety, with behavior and emotion dysregulation that is frequently interpreted by adults as misbehavior, leading to impatience and even harsh punishment. Planning effectively in responding to children's

needs and making preparations before disasters is very important to support resilience and recovery.

Hurricane Katrina struck the Gulf Coast on August 29, 2005, followed by the breach of the levees causing much physical destruction, loss of homes, property, toys, pets, and for many, a loss of community. The impact was both physical and psychological for children and families. Hurricane Katrina has been described as one of the worst natural disasters in U.S. history (Knabb, Rhome, & Brown, 2005), and, 5 years later, it continues to impact residents and communities in Louisiana. As this chapter is being written, the same families and communities impacted by Hurricanes Katrina, Rita, and Gustav are coping with the devastation caused by the Deepwater Horizon oil rig that exploded on April 29, 2010, killing 11 oil workers and injuring many others. With oil in the Gulf of Mexico, and uncertain impact on the fishing industry, the oil industry in the Gulf, and another hurricane season beginning, there is much anxiety and concern for children, families, and communities in this region.

Disasters with a slow recovery, such as Hurricane Katrina, can result in acute and chronic psychological effects (Kessler, Galea, Jones, & Parker, 2006; Osofsky, Osofsky, Kronenberg, Brennan, & Hansel, 2009; Weems et al., 2007) that negatively impact the child's normal developmental trajectory (Pynoos, Steinberg, & Piacentini, 1999; Shaw, 2000). Younger children are particularly vulnerable, especially if trauma and stress are making parents less emotionally available to their children. Large-scale disasters, such as Hurricane Katrina and the Deepwater Horizon Oil Spill are of particular importance related to children's development because they affect not only the individual but also multiple systems, including microsystems and exosystems, in which children develop (Bronfenbrenner, 1986; Masten & Obradovic, 2008). For many children affected by Katrina, their once thriving neighborhoods, grocery stores, and playgrounds were no longer functional; many children experienced multiple moves and changes in schools, as well as parental unemployment (Osofsky et al., 2009; Osofsky, Osofsky, & Harris, 2007). The families impacted by the Deepwater Horizon Oil Spill are being threatened with severe economic impact, as well as loss of their identities because they live and thrive by the water. For example, in St. Bernard Parish, an adjacent parish (county) to New Orleans that was devastated by Hurricane Katrina, at present, the oil spill is threatening the tranquil coastal fishing and wildlife areas of the parish. Lessons from the Exxon Valdez oil spill (*www.onearth.org/article/lessons-from-the-exxon-valdez*; Picou & Gill, 1996) showed the significant vulnerability of children over time, with significant impact on individual, family, and community identity. Outcomes for young children are still in question, and such uncertainties are common for all children exposed to a disaster with slow recovery.

WHAT WE KNOW ABOUT THE IMPACT OF DISASTERS ON CHILDREN

Research on disasters has shown that the impact on children depends on the nature of the disaster, the age and vulnerability of the child, the types of resources available to the child, and family and community supports (Masten & Osofsky, 2010). Studies of older children can provide background for understanding the potential impact on younger children for whom less research is available. Traditionally, child-focused disaster research examines postdisaster symptomatology. For example, the majority of the literature on hurricanes indicates that children are at a high risk for symptoms of depression, anxiety, and posttraumatic stress disorder (PTSD) (Goenjian et al., 2001; Kessler et al., 2006; Osofsky et al., 2007, 2009). A number of disaster studies with older children have documented symptoms of PTSD in children who have experienced natural disasters, including earthquakes, tsunamis, and hurricanes (Goenjian et al., 2005; John, Russell, & Russell, 2007; Kolaitis et al., 2003; La Greca, Silverman, Vernberg, & Prinstein, 1996; Lonigan, Shannon, Taylor, Finch, & Sallee, 1994; Piyasil et al., 2007; Pynoos et al., 1993). Many of these studies have reported comorbid symptoms of depression in children following natural disasters. Although there is overlap in symptomatology of both PTSD and depression, including anhedonia, sleep difficulties, problems with concentration, irritability, and a restricted range of affect, the research has been clear in demonstrating the distinct presence of each disorder following disasters (Goenjian et al., 2001; Kolaitis et al., 2003; Roussos et al., 2005). For example, a study exploring PTSD and depression in children between the ages of 7 and 17, who experienced a supercyclone in India, found that although PTSD and depression were significantly correlated, most children with PTSD did not meet criteria for depression, and 55.7% of children with a diagnosis of depression did not meet criteria for PTSD (Kar et al., 2007).

The relation between PTSD symptoms and disaster-specific aspects of trauma has been well documented in the literature. For example, a study of 16- and 17-year-old children following a 1999 earthquake in Greece (Roussos et al., 2005), as well as studies of 13-year-olds following Hurricane Mitch in Nicaragua (Goenjian et al., 2001, 2005), showed that exposure to a natural disaster was consistently related to increases in the severity of PTSD symptoms. In a study of over 5,000 children, ages 9 to 19, who experienced displacement and damage to their homes as a result of Hurricane Hugo, PTSD was associated with traumatic experiences (Lonigan et al., 1994). Similarly, Russoniello and colleagues (2002) found that 9- to 12-year-old children whose homes were flooded as a result of Hurricane Floyd were three times more likely to have symptoms of PTSD compared to those whose homes did not flood. Hamada, Kameoka, Yanagida, and

Chemtob (2003) reported that 6- to 12-year-old children who experienced Hurricane Iniki were more likely to report posttraumatic symptoms if they felt that their lives or the lives of others were threatened at the time of the hurricane.

Experiencing previous trauma plays an important role in severity of symptoms. Neuner, Schauer, Catani, Ruf, and Elbert (2006) assessed 64 tsunami survivors, ages 8 to 14, in Sri Lanka, and found that previous traumas, including exposure to war, domestic violence, community violence, medical treatment, physical abuse, and natural disaster, were associated with increased posttraumatic stress symptoms. Similarly, Garrison, Weinrich, Hardin, Weinrich, and Wang (1993) assessed 1,264 children, ages 11 to 17, following Hurricane Hugo and found that experiencing previous violent, traumatic events was associated with increased likelihood of PTSD. Unlike symptoms of PTSD, depression has not been found to be consistently related to level of disaster exposure or proximity. Depression has been associated with several different factors, including reported difficulties at home following the disaster (Roussos et al., 2005), death of a family member (Goenjian et al., 2001), and feeling that one's own life or the lives of family members were in danger (Thienkrua et al., 2006).

Research regarding how children express traumatic responses has been well established. Commonly observed traumatic reactions in school-age children include specific fears, separation difficulties, sleep problems, reenactment of the trauma in play, regression, somatic complaints, irritability, decline in academic performance, fear of recurrence of the trauma, and trauma-related guilt (Steinberg, Brymer, Decker, & Pynoos, 2004; Vogel & Vernberg, 1993). Adolescents, on the other hand, often express difficulties through individuation and identity development processes. Pynoos (1993) stated that "a trauma-induced sense of discontinuity can give a disrupting influence on the adolescent task of integrating past, present, and future expectations into a lasting sense of identity" (p. 222). Pynoos reaffirmed the Blos (1967) description of adolescence as a period of individuation, and elaborated that any threat to this process, through trauma, can potentially disrupt the developmental focus of this important period.

The Impact of Gender on Children's Psychological Responses to Natural Disasters

Research on children and adolescents has generally also shown a relationship between gender and reports of posttraumatic stress symptoms following exposure to natural disasters. The majority of studies have reported that females are more likely than males to develop PTSD symptoms (Bal, 2008; Giannopoulou et al., 2006; John et al., 2007; Pfefferbaum, 1997; Shannon, Lonigan, Finch, & Taylor, 1994). For example, following Hurricane Floyd,

9- to 12-year-old females were twice as likely as males to report symptoms of PTSD (Russoniello et al., 2002). Although much of the literature has described gender differences in psychological response to trauma, not all research is consistent on this finding. For example, Kar and Bastia (2006) reported no significant differences in depression and PTSD diagnoses for males and females in high school students following a supercyclone; however, they did report differences in the expression of symptomatology, with girls being more likely to report guilt and boys more likely to have increased worry, anhedonia, concentration problems, and academic problems. Shannon and colleagues (1994) also described gender differences in expression of symptomatology in 9- to 19-year-old children and adolescents, with females being more likely to report symptoms associated with emotional processing/emotional reactions, and males more often showing symptoms associated with cognitive and behavioral factors. While the disaster and trauma literature often reveals that females report more symptoms (Tolin & Foa, 2006), the interpretation of gender differences is complex, in that female adolescents and adults generally discuss feelings more openly and disclose symptoms of distress more easily, after they have experienced trauma (Crick & Zahn-Waxler, 2003).

The Impact of Hurricane Katrina on Children

Research data that are becoming available on the effects of Hurricane Katrina on children and adolescents reflect the unprecedented scale of the storm and complexity of the recovery. In a sample of 166 students in the 9th through 12th grades, Marsee (2008) found that 63% of students had symptoms of PTSD 15–18 months following the hurricane, and that the PTSD symptoms, together with high levels of aggression, were associated with emotional dysregulation. Weems and colleagues (2009) expanded the understanding of post-Katrina symptomatology, and found that, among 52 children with a mean age of 11 years in the 6–7 months following Katrina, level of posttraumatic stress symptomatology was related to hurricane exposure, female gender, and level of predisaster anxiety. Osofsky and colleagues (2009) found that variables including separation from a caregiver and evacuation to a shelter were associated with posttraumatic stress symptoms in 7- to 19-year-old students 2 years after Hurricane Katrina. In a study of 8- to 16-year-old students, Spell and colleagues (2008) found similar results, reflecting the importance of caregiver symptomatology in predicting a child's psychological status. Terranova, Boxer, and Morris (2009) provided further support for the importance of relationships in their study of sixth-grade students who were evacuated prior to Hurricane Katrina but did not experience significant flooding. In this group of children, negative peer interactions were associated with symptoms of PTSD 8 months following the storm. Kro-

nenberg and colleagues (2010) found that younger children, ages 9–11, compared to adolescents, ages 15–18, and females compared to males were more likely to show continued symptoms. Furthermore, children and adolescents who reported school and family problems were three times as likely to show continued symptoms of depression and anxiety. Similarly, Shannon and colleagues (1994) reported that in a sample of 5th through 11th graders impacted by Hurricane Hugo, symptoms of posttraumatic stress were more common in younger than in older children. Scheeringa and Zeanah (2008) studied 3- to 6-year-old children impacted by Hurricane Katrina and found that hurricane-related PTSD was associated with caregivers' level of symptomatology. Based on the newly emerging literature, mental health symptoms following Hurricane Katrina, as in other disasters, appear common, and children's responses are associated with hurricane exposure, previous trauma, as well as environmental and relational factors.

FACTORS THAT AFFECT RESILIENCE AND RECOVERY AFTER DISASTERS

Recent theoretical research has focused on examining patterns of resilience and recovery related to developmental theories and trajectories for children. Important factors that support resilience in preparation for and following disasters include promotive and protective influences (Bonanno, 2004; Bonanno & Mancini, 2008; Layne et al., 2009; Masten & Obradovic, 2008). Masten (in press) considered promotive factors to predict better outcomes at all levels of risk or adversity, and protective factors to be more important when risk or adversity was high. These two perspectives are extremely important in understanding the effect of disasters on children. The impact of disasters and developmental issues that follow are influenced by the nature and severity of the exposure, the importance of pre- and post-disaster context for understanding disaster response and recovery, protective factors for positive recovery, and the possible role of age and gender (Masten & Osofsky, 2010). Pynoos (1993) discussed factors that influence poor long-term outcomes following disasters, including extended periods of high cumulative adversity related to breakdown of infrastructure, ongoing economic consequences, family stress, loss of life and property, and other aspects of slow recovery.

While parents play a key protective role for children of all ages related to preparedness, safety, communication, and role modeling adaptive behaviors, parents are particularly important for younger children, who are more vulnerable and dependent on adults. To ensure the protection of children during and following disasters, parents need education and information to carry out their caring roles most effectively. While relatively few avail-

able studies relate to factors that support resilience in younger children, a recent study by Kithakye, Morris, Terranova, and Myers (2010), which also includes predisaster adjustment, shows that self-regulation skills in preschoolers were associated with prosocial behavior in general and had an moderating effect on the impact of exposure severity on prosocial outcomes. Masten (2007) also has found that self-regulation skills can support a protective role for children.

An important part of disaster preparedness for children must involve parents' and caregivers' effectively planning and carrying out the roles of protection, communication, and safeguarding children under very difficult circumstances. As mentioned earlier, an additional risk factor for children is prior traumatic experiences and losses, which play a key role in how young children (or children and adults of any age) react to and cope with disasters. Children with prior difficulties and those who have experienced previous trauma or loss, and continue to experience postdisaster trauma and adversities, are at higher risk for mental health problems than those without these compounding difficulties (Bowlby, 1973; Laor et al., 1997; Osofsky, 2004; Pynoos, 1993; Pynoos, Steinberg, & Goenjian, 1996; Vogel & Vernberg, 1993).

ISSUES FOR YOUNG CHILDREN

For infants, toddlers, and young children affected by disasters, relatively little information and a paucity of both research and effective interventions are available, probably for two main reasons. First, as mentioned earlier, many people continue to believe that very young children are "too young" to be impacted. Second, it is often difficult to gain access to young children to provide evaluations, interventions, and services after a disaster. Young children are dependent on their parents or caregivers, and, in our experience, parents often tend to underreport symptoms and to seek out help for them well after the problematic behaviors occur. Older children are in school settings with teachers and counselors, who generally are more familiar with the classroom setting, and individual and student behaviors. They generally are easier to access, have more supports outside the family, including friends, and can communicate how they are feeling. Yet, as noted, infants and toddlers are exquisitely sensitive to the reactions, behaviors, and emotions shown by their parents or caregivers, particularly their stress level, and how they cope is very dependent on the reactions of others (Masten & Obradovic, 2008; Masten & Osofsky, 2010; Osofsky, 2004: Osofsky et al., 2007; Pine, Costello, & Masten, 2005).

Furthermore, the disaster and the postdisaster environment play an important role for children, families, and communities related to the issue

of multiple adversities (Felitti, 2009; Klasen et al., 2010; Kronenberg et al., 2010; Pynoos, 1993). The co-occurrence of trauma and poverty can lead to increased vulnerability for children of all ages, and particularly for young children. These issues are significant following disasters and were illustrated poignantly in the aftermath of Hurricane Katrina by children and families in the Gulf South, for whom symptom severity was very high and has decreased only slightly in the years following the disaster (Kronenberg et al., 2010; Osofsky, Osofsky, & Harris, 2007). Fernando, Miller, and Berger (2010), in a study of tsunami survivors in Sri Lanka, discussed the role of daily stressors related to outcomes and coping, in addition to the actual exposure to a disaster. Although much of this work has involved older children, there are important implications for younger children, since more stress in families has a significant impact. Becker-Blease, Turner, and Finkelhor (2010) provided data on prevalence and incidence of exposure to disasters in a nationally representative sample in the United States for children ranging in age from 2 to 17 years. The data indicated that about 14% of children and adolescents reported experiencing some type of traumatic event in their lifetimes, with about 4% experiencing such an event in the previous year. A recent study by Chemtob and colleagues (2010) that highlighted the importance of parents' emotional state and availability to their children after a disaster showed that preschool children of parents with more PTSD symptoms and other mental health problems following the September 11, 2001, terrorist attack had more difficulties. Consistent with developmental theory, children who are not protected at the time of the disaster by supportive caregivers may be more vulnerable to the effects of the disaster.

As a result of the evacuation and displacement following Hurricane Katrina, some children who were separated from their parents experienced other disruptions in their primary relationships, family, child care, and other support systems. While few circumstances other than disasters cause such a massive disruption in the lives of young children, history has shown (Bowlby, 1973; Burlingham & Freud, 1942) that in times of stress, attachment behaviors are activated, with young children turning to their caregivers for comfort and security. During World War II, during the London Blitz, Burlingham and Freud (1942) observed young children being cared for at a residential nursery. Children who were separated from their caregivers showed regressive behaviors, aggression, and withdrawn and depressed behaviors. In 2003, Foster, Davies, and Steele studied the long-term effects of children's separation from caregivers during the London Blitz. They found that 60 years later, adults who were separated from their parents as children, compared to those who lived in London with their parents during the war and did not evacuate, were at increased risk for an insecure attachment style and were more likely to report low levels of psychological well-being. These results are consistent with the recent Adverse Child-

hood Experiences Study (Felitti, 2009). During Hurricane Katrina, children were confronted by multiple stressors, including the primary stressors of the storm, such as witnessing the devastation and destruction and sustaining injuries, and inability for some to access their primary attachment figures or other supports (e.g., their pets, familiar toys, and schools) in order to cope. When young children lack secure caregiving relationships, they are at risk for less optimal social and cognitive outcomes (O'Connor & McCartney, 2007; Rydell, Bohlin, & Thorell, 2005).

EFFECTIVE INTERVENTIONS FOR YOUNG TRAUMATIZED CHILDREN AFFECTED BY DISASTERS

Consistent with important intervention components discussed in different chapters (e.g., Cozza & Feerick, Chapter 8), young children impacted by disasters benefit from (1) support for the parents and caregivers, which includes reducing individual and family stress; (2) support for child, parent, and family functioning; and (3) helping parents and caregivers communicate with their young children related to the changes in their lives. For young children, it is important to recognize the importance of the family environment, supports for the family in the community, and attachment relationships that provide safety, routine, and a sense of normality in the young child's life. Suggested interventions for young children are presented with illustrative examples.

Psychological First Aid

Psychological first aid (PFA) is an evidence-informed intervention for disaster response and recovery (Brymer et al., 2006). Five key principles of PFA intervention emphasize (1) establishing a sense of safety, (2) promoting calming through distress reduction, (3) building a sense of self and community efficacy, (4) fostering connectedness, and (5) promoting a sense of hope. With young children exposed to disasters, these PFA principles can be implemented in disaster settings (e.g., shelters), and in family settings, community-based programs, family and parenting support programs, child care centers, and so forth. Those intervening with PFA can also provide support to others who relate to the young children.

PFA principles must be applied in a developmentally appropriate manner. For example, maintaining daily routines and physical proximity to a trusted adult are essential in establishing feelings of safety in infants, toddlers, and preschoolers. In addition to attending to safety, preschool children (3–5 years old) may have unique requirements for managing distress. Their lack of cognitive capacity to understand the situation fully or to describe

their feelings necessitates nonverbal outlets. Young children gain mastery through play, practice, and repetition. Playing with developmentally appropriate toys can help children become more comfortable with the experiences of their parents. One resource related to disasters developed specifically for children at this age is the Sesame Workshop's Let's Get Ready *www.sesameworkshop.org/initiatives/emotion/*) and You Can Ask (*www.sesameworkshop.org/newsandevents/pressreleases/you_can_ask_online*).

Illustrative Example

Shortly after Hurricane Katrina, my husband and I were living with first responders in temporary housing on boats in New Orleans. The boats were provided to allow family reunification, since most first responders had lost their homes and many had displaced family members. I noticed an officer, his wife, and 4-year-old child in the cafeteria looking upset and frustrated. I walked over to them and introduced myself, said I was local, from the Louisiana State University Health Sciences Center, and asked if I could be of help to them. The father responded, "There is nothing you can do to help." I asked if I could sit down with them and handed the little girl a toy from my pocket. I said that I knew it was very hard for so many of the officers and their families who had lost their homes and possessions, and I wondered how things were going with their daughter. Then they started to talk about how hard it was on the boat with close quarters, how difficult it was to access the insurance money they needed to rebuild their home, and the lack of family support since their extended family could not return to New Orleans at this time. I asked what they did with their child during the day. On the verge of tears, the father replied that there were no child care centers, no work for his wife, and they did not know what they could do. After listening to them express their frustration, worries, and uncertainties, I acknowledged how hard it was and wondered about possible steps that we could take together. The father then started sharing more about their lives. He said that not only had they lost their home, but also his wife had lost her job. She described fears that all of their years of effort to create a safe, comfortable home for themselves and their daughter would be lost. They felt angry and hopeless. We were then able to sort out together what they could do for themselves and for their daughter. I was able to tell them that our team, together with volunteers, would be opening a child care program on the boat, and that the Red Cross and other groups would continue to bring clothes on the boat for families since they had all lost everything. We talked about their daughter being taken care of for part of the day, which would give them some time off to help organize their lives; there might also be possibilities of a job for the wife. I also said that our team would be bringing more donated toys on the boat, so that their daughter would

have some toys to play with in the evening. Since it was early after the crisis, they were not ready to think about where they might live and whether they might rebuild their house. However, after talking together for 45 minutes and trying to problem-solve, they were able to see a "dim light" at the end of the empty tunnel. I told them I would be on the boat and they requested follow-up, feeling that it would be helpful. They now seemed more relaxed and smiled more with their daughter.

Child–Parent Psychotherapy

Child–parent psychotherapy (CPP), which engages the child and parent together, is an evidence- and relationship-based treatment (Lieberman & Van Horn, 2004, 2008) designed to support the child–parent relationship through interventions for children ages birth to age 5. It is used for young children who are showing emotional or behavior problems, including symptoms of posttraumatic stress, and those who have been maltreated and exposed to trauma (Van Horn, Gray, Pettinelli, & Estassi, Chapter 4, this volume, discuss principles of CPP in depth). CPP can be very helpful for young children exposed to disasters that include displacement, separation from parents or caretakers, and trauma that has disrupted usual routines and support. Together with the caregiver, the therapist works to help the child create a new narrative through words, pictures, and play, including an understanding that the caregiver will keep him or her safe. The therapist helps both child and parent understand the maladaptive behaviors that result from the traumatic experience, and supports the child's positive development, building on the strengths of the parent.

CPP is based on the premise that the child's relationship with the mother, father, or primary attachment figure represents the most important "port of entry" or opportunity for intervention to help support the child's development in all areas, with particular focus on social and emotional development. Furthermore, CPP works with parent and child to facilitate increased emotional and behavioral regulation. These issues are particularly important for children who have been traumatized and, as a result, are unable to show emotions and behaviors in appropriate ways, and instead display, for example, increased aggression or withdrawn behavior.

Illustrative Example

Three weeks after Hurricane Katrina, a 4-year-old child of a first responder was staying with his grandparents in temporary housing because he had lost his home in the hurricane and his father had to work. His father was his primary parent. The grandparents were concerned about his withdrawn behavior. They stated that he used to be happy and relaxed and now did

not smile, play, or talk much. The mental health consultant sat down with the little boy and his grandfather, talked to him about Hurricane Katrina, and conveyed to him a wish to know more about his experience. The little boy started to talk, and his grandfather listened. He said he was in the Superdome on his birthday and waited and waited for his father to come with a cake—and he never came. He was very disappointed. He knew that his father would never forget his birthday, and he worried about his father. The therapist commented that he was sure his father also missed bringing him a cake for his birthday and the grandfather described that he had wanted to be there but could not get there because of the storm—but they would soon be together. As he talked, the boy began to brighten once he was able to share what was bothering him. He became engaged in the play and interactions with his grandfather. (The mental health professional knew that his father had been stranded at the Superdome during the flooding and could not communicate with his family, and that there were initial, but now resolved, concerns about his safety.)

Parental Guidance Related to Trauma and Developmental Expectations for Young Children

Often parents or caregivers may misunderstand that many difficult behaviors in young children can result from exposure to a traumatic event, such as a disaster. The child may be scared and anxious following the traumatic experience, showing it through behaviors and emotions that are difficult for parents and caregivers to understand and may lead to impatience and unresponsiveness. Parental guidance following trauma is designed to help the adult understand that a young child's behavior has "meaning," and to learn more about the relationship between emotions and behaviors.

Illustrative Examples

EXAMPLE 1

As noted, in November 2005, the Louisiana State University Mental Heath Trauma Team, together with Substance Abuse and Mental Health Administration (SAMHA) volunteers, established a child care center on the cruise ship that housed first responders and their families, 80% of whom had lost their homes during Hurricane Katrina and were living on the boat while they continued to do their work in New Orleans. The child care center was needed for these first responders, some of whom had to go to work and others who needed some respite from being with the children all day. The first game that the children wanted to play and repeat day after day was "Hurricane." It was very difficult for the parents to observe and join in their chil-

dren's play involving repeated experiences during the hurricane. Education and support was needed to help the parents accept child behavior that was a normal part of working through the traumatic experiences. Furthermore, the therapists had to be mindful of the nature of repetitive traumatic play and, over time, together with the parents, help the young children understand their new life experiences after the hurricane, which included much displacement and loss, many new adjustments, and hopes for the future. This example illustrates how children play out traumatic experiences, and how difficult it can be for parents to see and experience this play.

EXAMPLE 2

A 2½-year-old lost his home in Hurricane Katrina and was evacuated with his two parents. Although the boy was safe and protected, his parents had to rebuild their home in an area that was totally flooded. He had a teddy bear that he took everywhere with him since Hurricane Katrina. When he was 4 years old at preschool, the teacher wanted him to take a nap without his teddy bear, and said that the teddy bear would be in sight. He cried and cried, and finally said to the teacher, "I don't want to give you my teddy—he will drown."

CONCLUSION

Disasters of all kinds occur far too frequently, be they hurricanes, typhoons, earthquakes, fires, flooding, and so forth. The potential for young children to be impacted is great because, even when prepared, it is not possible to anticipate when a disaster may occur. When a disaster does occur, not only is the child impacted but also the parent or caregiver, whose role is to keep the child safe and provide protection and nurturance, may be affected and often traumatized. Furthermore, with displacement, there is disruption and loss of property, sometimes loss of lives, and certainly interruption of routines that are so helpful for the stability and positive growth of young children. Young children in particular can be profoundly impacted by disasters because they lack the cognitive and emotional maturity and skills to cope that are present even in older children. In addition, young children are more reliant upon parents and other caregivers to support their development and meet their needs. Parents and caregivers coping with disasters may not have available the physical or emotional resources to meet the young children's needs. Furthermore, if there is separation of the child from significant caregivers, such as occurs routinely in first responder families, there may be a dramatic impact on the established relationship between the child and his or her parents and extended family of trusted adults. Disaster response can be

much improved, with more attention to the developmental needs of children of different ages and particular attention to younger children, who are so much more vulnerable and dependent on adults. With better preparation and acknowledgment of difficulties, we can provide much more support for young children during disasters and their aftermath.

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