# Surviving Catastrophe: A Study of Children in Hurricane Katrina

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## Abstract

In this research, we examined children's experiences in the aftermath of Hurricane Katrina in an effort to contribute to the disaster literature on this important and seriously understudied topic. Specifically, we explored the following research questions: (1) What were the children's experiences in the disaster?; (2) What are others doing for the children to lessen their vulnerability?; and (3) What are children doing for themselves and others to reduce disaster impacts? Data were gathered through participant observation, focus groups, and interviews with parents, grandparents, daycare workers, school administrators, elementary school teachers, mental health service providers, religious leaders, and evacuee shelter coordinators in Louisiana. We found that despite the diversity of experiences and family situations, there were also many commonalities in the ways parents and others worked to safely evacuate children, enroll them in school, and reestablish routines, and the ways children formed new friendships and tried to adjust to the upheaval in their lives. Our study supports the idea that children are both vulnerable in disasters and need assistance from adults, but also that they are resilient and can find ways to effectively cope.

In the days and weeks following Hurricane Katrina's landfall, people around the world watched in horror as images of the immense devastation and human suffering were broadcast by the media. Television newscasts showed the dramatic rescue of individuals from attics and rooftops, families wading through murky floodwaters, and grief-stricken evacuees in mass shelters with no drinking water, dwindling food supplies, and no power. During this emergency period, parents, school officials, mental health professionals, politicians, and members of the media expressed widespread concern about children's reactions following exposure to such a traumatic event. Over one million children lived in the counties most directly affected by Hurricane Katrina, and approximately 300,000 school-aged children in Alabama, Louisiana, and Mississippi were displaced as a result of the storm (Hunter 2005). In many cases, these children lost their homes, toys, pets, schools, friends, and some were even separated from their immediate family for prolonged periods following the disaster.

In this research, we focus specifically on children's experiences in the aftermath of Hurricane Katrina in an effort to contribute to the disaster literature on this important and seriously understudied topic. Anderson (2005) contends that although significant progress has been made in the social science disaster research field over the past several decades, important areas of research have been understudied, including the impact of hazards and disasters on children and youth.

Knowledge regarding children and youths, Anderson (2005) argues, will provide a more complete understanding of the impact of hazards and disasters on society and will improve our ability to develop more robust theoretical models. He notes that researchers in developing countries and U.S. researchers who focus on gender see the need to extend analysis on women to include children and youth. Anderson develops the conversation about children's vulnerability by raising the concept of agency. Children have often been conceptualized as helpless victims, but they are also proactive agents, finding ways to communicate risks and take protective actions. While other scholars have also criticized the children-as-victims model (Kirschke and van Vliet 2005), Anderson presents the complexity of their experience and acknowledges that we need to look at the very real vulnerability of children, the actions of adults to reduce that vulnerability, and the ways children can do things for themselves, such as creating youth culture with music, art, and humor, and also using technology to communicate about risk.

Drawing from Anderson's (2005) call for more research on children and disasters, we utilized the following research questions for this study of children in Hurricane Katrina: (1) What were the children's experiences in the disaster?; (2) What are others doing for the children to lessen their vulnerability?; and (3) What are children doing for themselves and others to reduce disaster impacts? These re-

search questions, in particular, were used during a research trip to Grand Forks, North Dakota, and were found to be effective when talking with parents, teachers, and school administrators about children's experiences in the 1997 flood disaster (Fothergill 2005, data unpublished).

This exploratory research will help us gain insight into the experiences of children and families during extreme times. As Anderson (2005: 160) states, groups that are understudied can become the "underserved," especially in diverse and highly stratified societies such as the United States. Therefore, we hope that the findings from this research project will help to reduce the vulnerability of children and help them get the services they need in the immediate and longer-term aftermath of disaster, while also highlighting the special capacities and strengths of children.

## Children and Disasters

Social science research on disasters has largely overlooked children. However, over the past two decades, children's responses to natural, technological, and human-initiated disasters have received increased scholarly attention from psychologists and psychiatrists working in this area. Consequently, the research that is available has predominantly examined children in a mental health context. In particular, researchers have found that the nature and severity of children's psychological, emotional, and behavioral responses to disaster are influenced by child characteristics, family context, and disaster characteristics (see Vogel and Vernberg 1993).

### Child Characteristics

Several studies have examined how child characteristics may influence more general emotional and behavioral problems, as well as specific psychological disorders, including the prevalence of anxiety, depression, and post traumatic stress disorder (PTSD). Researchers have primarily focused on how the age and gender of children may influence their responses to extreme events, while less attention has been dedicated to other potentially important factors such as social class, race, ethnicity, religion, or nationality (although see Shannon et al. 1994; Stuber et al. 2005; and Vernberg et al. 1996 for notable exceptions).

**Age.** Most available research has focused on the consequences of disasters for school-aged children and adolescents. The results are mixed regarding whether or not younger elementary school-aged children or adolescents are more at risk for developing mental health problems after a disaster. Some research has suggested that younger children possess fewer strategies for coping with both the immediate disaster impact and its aftermath, and thus may suffer more severe emotional and psychological problems. Yet other research has shown that as children age, older

children and adolescents are more traumatized by disasters, most likely because of their understanding of the implications and meanings of the events (see Mercuri and Angelique 2004). Due to their age and the influence of peer groups, adolescents and teenagers are also at increased risk for alcohol and drug misuse after disaster (Reijneveld et al. 2005).

Very little is known or understood about the reaction of infants and very young children to traumatic events (Saylor, Swenson, and Powell 1992). Of the studies that have examined the responses of young children to disasters, the most often reported problems include clinginess, dependence, refusal to sleep alone, temper tantrums, aggressive behavior, incontinence, hyperactivity, and separation anxiety (see Norris et al. 2002). Swenson et al. (1996) found that 14 months after Hurricane Hugo, preschool children who lived through the disaster showed significantly higher anxiety and withdrawal and more behavioral problems than a comparison group of children who did not experience the hurricane. Another study of preschoolers' reactions after Hurricane Hugo found that the children expressed new and sometimes disruptive fears, but these same children often used spontaneous play, drawings, and conversation to adjust to the trauma in a relatively adaptive fashion (Saylor et al. 1992).

**Gender.** Research that has considered children's gender and the development of psychological and behavioral problems after disaster is inconsistent. Some studies have found no relationship between gender and the development of depressive symptoms or PTSD after disaster (Jeney-Gammon et al. 1993). Other research has found that girls express more worry (Lengua et al. 2005), anxiety and depressive disorders (Hoven et al. 2005), and PTSD symptoms (Green et al. 1991; Shannon et al. 1994) than boys, while boys seem to exhibit more behavioral problems in the aftermath of disaster (Pfefferbaum et al. 1999). Wiest, Mocellin, and Motsisi (1992) contend that children, especially girls, may be vulnerable to sexual abuse and exploitation in the aftermath of disaster.

### Family Context

In addition to causing widespread loss and suffering, disasters disrupt normal daily routines and place additional burdens upon the families of children (Maida, Gordon, and Strauss 1993). Thus children are often depicted as more vulnerable in disasters because they are generally dependent on their family for their physical security and emotional support (Cutter, Boruff, and Shirley 2003), and because they do not have the same coping strategies that adults have to fight stressors. Given this, it is not surprising that increased levels of parental distress have been directly linked to children's adverse mental health outcomes following a number of disasters, including the Buffalo Creek Flood (Green et al. 1991), the Whittier

Narrows earthquake (Maida et al. 1993), Hurricane Hugo (Swenson et al. 1996), and the September 11 terrorist attacks (Stuber et al. 2005). Wasserstein and La-Greca (1998) report that high parental conflict following Hurricane Andrew was related to more PTSD symptoms among a sample of elementary school children from two-parent homes. Among high parental conflict children, Hispanic children reported more PTSD symptoms than did white children, suggesting a potentially different cultural impact of parental conflict on children's functioning following a disaster.

In their study of New York City children between the ages of 6 and 17 after September 11, Stuber et al. (2005) found several factors were associated with the prevalence of children's postdisaster behavioral problems. Specifically, living in a low-income household, living in a single-parent household, having a parent with PTSD or depression resulting from September 11, seeing a parent cry, or having a parent who was involved in the response and recovery efforts were all correlated with increased behavioral problems among children. The research team hypothesized that the behavioral issues may have been a result of the fact that low-income parents, single parents, grieving parents, or parents actively engaged in disaster response efforts may have been less available to provide emotional support to their children due to their own stress.

Although it is widely recognized that disasters often contribute to an increase in parental stress and depression, the incidence of child abuse following disasters has not been studied thoroughly (Keenan et al. 2004). In one of the first attempts to empirically examine whether or not child abuse escalates after natural disasters, Curtis, Miller, and Berry (2000) discovered statistically significant increases in child abuse reports in the first six months following Hurricane Hugo and the Loma Prieta earthquake, but found no statistically significant change in abuse rates following Hurricane Andrew. Keenan et al. (2004) examined whether there was an increase in traumatic brain injury (TBI—commonly referred to as shaken baby syndrome) among children two years old or younger after Hurricane Floyd. The results showed an increase in the rate of inflicted TBI in the most affected counties for six months following the disaster, possibly reflecting increased injury risk due to prolonged stress.

## Disaster Characteristics

In a review of the literature on children's responses to disasters, Mercuri and Angelique (2004) conclude that the disaster agent is relatively insignificant in predicting children's psychological outcomes. Regardless of the type of disaster (whether natural, technological, or human-initiated), children are most likely to exhibit increased levels of PTSD when they are exposed to frightening, life-threatening

events (Hoven et al. 2005; Vernberg et al. 1996). The degree of loss experienced as a result of the disaster has been cited as another important factor in determining children's adverse reactions. For example, extreme events that cause extensive damage to children's homes and communities (Shannon et al. 1994), separation from family members (Vogel and Vernberg 1993), or the death of family members or friends (Pfefferbaum et al. 1999) have all been identified as contributing to children's negative behavioral and emotional responses in the aftermath of disasters.

Recently, researchers have begun to explore the potential impacts of pervasive media exposure of disaster on children. Saylor et al. (2003) discovered that older elementary school students and boys witnessed more media coverage of the September 11 terrorist attacks. Regardless of whether the media images were positive (e.g., heroic efforts) or negative (e.g., images of death, injury, and physical destruction), greater amounts of exposure corresponded with more PTSD symptoms, particularly when the images were viewed on the Internet (also see Lengua et al. 2005). A study of middle and high school students following the 1995 Oklahoma City bombing found that viewing bomb-related television coverage correlated with posttraumatic stress symptoms (Pfefferbaum et al. 1999). These studies provide evidence that children need not be directly exposed to a disaster to be psychologically affected by it, thus raising concern about the health and well being of children who witness images of disasters through televised, print, and electronic means.

Important gains in understanding children's psychological, emotional, and behavioral responses to disaster have obviously been made. Yet the impact of disasters on children's social worlds, including their individual lives, family and peer relationships, and schooling, is lacking. By modeling our research questions after Anderson's (2005) three types of outcomes—what disasters do to children, what is done on their behalf, and what they do themselves—we hope to discover and understand more about children's lived experiences in the immediate postimpact period of a disaster and to contribute to the accumulation of sociological research on this topic.

## Research Methods and Sample

In this study we used a combination of ethnographic methods, including informal interviews, in-depth formal interviews, focus groups, and participant observation. In October of 2005, we interviewed a total of 38 individuals in Baton Rouge, Lafayette, Metairie, New Iberia, and New Orleans, Louisiana. We talked to parents (mothers and fathers from single-parent and two-parent families), grandparents, daycare service providers, school administrators, elementary school teachers, mental health service providers, religious leaders, and evacuee shelter coordina-

tors. Our sample was diverse in terms of age, race, social class, gender, profession-al status, and marital status. The interviews lasted between 30 minutes and two hours, and were conducted in homes, schools, daycare centers, disaster shelters, and churches.

In each interview, we attempted to learn as much as possible about children's experiences both during and following the hurricane from the adults in their lives.[1] We spoke with the parents of infants, young children, school-aged children, adolescents, and teenagers. We also interviewed professionals who were working with preschool aged children, elementary school aged children, adolescents, and teenagers. We have given pseudonyms to all individuals and schools to keep their identities confidential.

In addition to the interviews we conducted, we were also able to gather observational data at a daycare center and at two schools—the Bayou Schoolhouse, which was formed by two teachers and a group of parents following Hurricane Katrina, and at a private Catholic School on the outskirts of New Orleans that had just re-opened in early October of 2005. We observed shelter operations at the Cajundome in Lafayette (a large "mass shelter," which at one time housed almost 10,000 evacuees from Hurricane Katrina and Hurricane Rita) and at a much smaller shelter at a Baptist Church in Baton Rouge. We also visited the Goodwill food and clothing distribution center for hurricane evacuees in Lafayette. In addition, we spent one afternoon surveying the flood and hurricane damage in New Orleans. We also observed a newly established Federal Emergency Management Agency (FEMA) "Trailer City" on the outskirts of Lafayette. All observations were recorded using standard field note techniques (Atkinson 1992).

## Access

We gained access to our initial sample population through a variety of personal and professional connections. Fothergill's sister used to live in New Orleans, so she provided Fothergill with a list of friends who have children and evacuated as a result of the storm. A sociology professor at the University of Louisiana-Lafayette helped us gain access to the Cajundome by providing the name of a staff member whom she had recently met. She also gave us the names of daycare service providers and school administrators in Lafayette. Another colleague gave us the name of an interfaith leader in Baton Rouge. In addition to our initial contacts, we also secured interviews through a referral snowball sampling technique (Biernacki and Waldorf 1981). The use of snowball sampling helped to ensure sample diversity and to enrich the depth of our data.

## Findings

The findings from our qualitative, exploratory research project on children in Hurricane Katrina are detailed in the following sections: Type I Outcomes: Impacts on Children; Type II Outcomes: Actions Taken by Others; and Type III Outcomes: Children's Actions. The Type I, II, and III Outcomes terminology for these section headings is borrowed from Anderson (2005).

### Type I Outcomes: Impacts on Children

As Anderson (2005) states, the first area to examine is children's vulnerability and the impacts on children in a disaster because of their age. In other words, he calls for more understanding of what disasters *do* to children and youths and, by extension, what their experiences are in all facets of their lives. In an examination of Type I Outcomes, we look specifically at what happened to children in Hurricane Katrina in terms of evacuation, education, health, and short-term recovery.

**Evacuation.** For the children and families who had spent most of their lives in Louisiana, living with hurricanes was nothing new. It was simply one aspect of everyday life and, indeed, following the active hurricane seasons of 2003 and 2004, some of the families had evacuated numerous times. Yet Hurricane Katrina came as a surprise. In fact, in the days leading up to the storm, several of the families indicated that they had not planned to evacuate, somewhat an indication of their "hurricane fatigue." But as the storm switched directions and headed toward New Orleans, parents, friends, relatives, and neighbors began calling one another. Almost all of the parents we spoke to stated that it was because of their children and their concerns for their safety that they decided to leave their homes and evacuate. Several remarked that they definitely would have stayed in the city if they did not have children. The timing of the storm's approach and the evacuation decision is important. Since these fell on a weekend, children were not in school and daycare, so all of the children in our study were with family members when the situation became serious. None of the children were in self-care, which would have posed a more risky situation for them (Phillips and Hewett 2005).

The children's experiences with the evacuation from New Orleans varied greatly. Some families who had the resources drove out of town and were able to stay at hotels, friends' houses, or with relatives. Several parents expressed that, for their young children, the evacuation to a grandparent's or to another relative's house was similar to a vacation, and the children did not understand any of the larger issues the family faced. Shashi, an Indian-American woman, for example, said that her young children were happy staying with their grandparents and getting so much attention from them and their aunts and uncles. Two other women, Kate and Beth, who evacuated together with their young children, ex-

pressed that in the beginning it was fun and like a vacation; hence, they all called it their "hurrication."

However, other parents told us of frightening and stressful evacuations with their children. One mother, Debra, worked on the janitorial staff at a hospital in New Orleans and was encouraged by her superiors to bring her family members to the hospital to be safe from the storm. As weather conditions worsened, the hospital lost power and ran out of supplies and Debra, who had to work, at several times was panic-stricken when she could not find her 9-year-old daughter in the pitch-black hospital halls. Eventually, they were rescued by boat and taken to a shelter, but both mother and child appeared traumatized by the experience. Another mother, Sherron, who was staying at the Cajundome, recounted how in order to save her four children she had to steal a truck and drive out of New Orleans. Deirdre, a mother at a Baptist Church shelter in Baton Rouge, explained how she had to tie her one-year-old daughter to her body with a blanket in order to evacuate during the height of the storm. Michelle, a public health service worker, told us perhaps one of the most difficult stories from our research. A young mother was being lifted off a roof in a helicopter basket with her young baby, and due to the high winds and the movement of the basket, her baby fell into the raging flood-waters below. Michelle said that when the mother came to the morgue to look for her baby weeks later, she was very calm and exhibiting symptoms of shock. The baby's body was not at the morgue.

Most of the parents, like their children, thought that they would only be gone from home for a few days as they had in the past. Thus, the voluntary evacuees we spoke with had only taken a few personal items and two or three days' worth of clothes. Many did not gather up important documents or the most special things—such as photo albums, cherished toys, school awards, and so forth—as they were so used to evacuating and returning that this time they just did not worry about it. Past research has shown how important these personal items are to families for their emotional recovery (Fothergill 2004), and thus it was not surprising that some of the individuals we interviewed expressed great sadness over this loss.

**Education.** After evacuating and relocating outside of the Gulf Coast area, most young children and teenagers began to attend new daycares, preschools, elementary schools, middle schools, high schools, and colleges. Having their children settled into a good educational setting appeared to be a top priority for almost all of the parents. The children had a wide range of experiences as they adjusted to their new school settings. Some of the issues were related to the racial, ethnic, and religious makeup of the new school, the overall quality of the school, how it differed from their old school, and whether they had friends or even familiar faces at their new school. The schools themselves struggled to deal with a wide range

of emotional, behavioral, and cultural issues as they welcomed the evacuees into their classrooms or reopened their own doors, as well as with financial challenges, such as unpaid tuition.

Often children found themselves attending schools with a different demographic composition than the one they had attended before the hurricane. Shashi, for example, found that her child was the only child of color in her new preschool in Lafayette, whereas in New Orleans, children were of numerous racial and ethnic backgrounds and it had not been an issue. She stated:

> *[The school here is] very, very nice, but Charu's preschool as well as her Montessori in New Orleans was extremely different. And you can tell there's a big difference from day one, because it's extremely, extremely white . . . I could see that for the first couple of weeks she must have felt a little different there, being the only ethnic child in her class. It's not easy. And in New Orleans, even though she was the only Indian girl in her class, there were Chinese kids, black kids, you know? And white kids and even among the whites, there were Finnish kids, French kids. So there are a lot of different things.*

Other parents also expressed concerns that their children were in school settings with fewer racial and ethnic minorities during evacuation.

Anne, a mother of a 2-year-old son, missed the warmth of the teachers at her New Orleans preschool. She felt that while the new school tried to be understanding of what the evacuee children were going through, it seemed as if they were more concerned about maintaining control in the classroom. Anne did acknowledge, however, that "anytime you switch schools for any reason . . . it's really hard." In addition, we heard of several preschools in Lafayette that required curbside dropoff of children, where teachers met students right at their cars rather than allowing the parents to come into the school. For New Orleans families, that was a difficult and somewhat impersonal way to interact with the school.

Adjustment to new schools was often affected by the absence or presence of the children's old schoolmates or other peers from home. Although a few of New Orleans's schools reopened in early 2006, many children did not return to their schools because they evacuated to other parts of the country when their homes flooded, because their parents lost their jobs, or because their old schools remained closed. Thus, for the children who returned, they not only had to deal with the disruption in their families and their own loss, they also had to come to terms with the loss of their friends and classmates.

Children starting new schools had to form new friendships. This was particularly difficult for children if their temporary housing situation continued to change and they moved from school to school. One mother said that her daughter, who is in high school, had changed schools four times since the hurricane. Teenagers' dating relationships with their peers also faced challenges with the uncertainty. One teenager, Peter, had just begun to form a romantic relationship with a longtime friend, Theresa, when the storm hit and her family evacuated to the West Coast. He started a new school outside of New Orleans where he became interested in a new girl, but was not sure ethically what to do. It was uncertain if his old girlfriend and her family would ever return or if their old school would reopen. While it may seem trivial in light of other challenges, this type of anxiety weighed heavily on Peter, and he confided in his mother that he was upset by the situation.

Some of the schools were faced with emotional and behavioral issues as children struggled to cope with the anxiety from the disaster. One kindergarten teacher, Nancy Murphy, said that in all of her 20 years in the classroom, she has never witnessed children more upset than after Hurricane Katrina. She said that one of the evacuee students "had a total meltdown" at school and had spent most of the morning crying. Although Nancy tried to help the child, he was beyond consolation. Two daycare workers, Beverly and April, noted that young children were experiencing some problems following the storm. Both women agreed that "everything has changed" in the aftermath of Hurricane Katrina. In the days immediately following the hurricane, children who had previously been well behaved were acting out and causing problems. Beverly attributed these behavioral issues first and foremost to the disruption of the children's lives: many of their parents were away from home helping with the disaster relief effort, while others had moved several times since the disaster. After about a week, the children in daycare began to settle back down.

The schools also faced many challenges about how to best serve old and new students. Mrs. Murphy said she had sent a note to one little girl's family asking if they would like to participate in the class snack calendar, where each child is assigned a day to bring a treat to share with the class. The child's parents responded that they were financially unable to participate. For the children attending private elementary schools, where the tuition can run into the thousands of dollars each semester, the economic struggles were particularly acute for parents. At the Catholic school we visited, the principal, Sharlene Alarie, indicated that they were not asking parents to pay tuition, but that the policy would have to end sometime early in 2006, as the school obviously has large operating costs. She worried about what would happen when the time came to require tuition again. Another issue was the politics of placing exceptional high school athletes in temporary schools during evacuation. While school placement was supposed to be decided by the student's

temporary housing location, there were rumors that coaches were fighting over the best athletes, and at times tuition at private schools was mysteriously waived for the most talented. These rumors placed some students in the middle between many upset parents and school administrators.

Despite issues with readjustment, some of the new schools were an improvement for the evacuated children for a variety of reasons. Karla, a white mother from Metairie, for example, found that her teenage son's confidence increased during the evacuation. Her son attended a smaller school during the year after the hurricane; his New Orleans school had 1,500 students, while his new high school had just 600. He also attended a different school from his brother, who was an academic star. She explained his experience at this smaller school:

> *He came home one day and—he's not an honors student, he's a very good student, but it doesn't come easy, he works hard for his grades—he came home one day and said "I think I'm very smart." I said, "What do you mean?" He's like, "I was the only one who knew what they were doin' in biology." This school, this situation, I think, is good. [Why?] I think it's the fact that he is now* someone. *He's the new student . . . So I think he feels special in some way.*

Others felt that the schools during evacuation were actually of better quality than their old schools. Luke, a single father, remarked that his 7-year-old son, Zachary, was attending an excellent school during evacuation, and that his son was learning more than at his old school.

**Health.** Health concerns were plenty in the hurricane aftermath. First and foremost, because of their size and stature, children were vulnerable to injury and death during the storm and flooding. However, reports of the missing and deceased from the Louisiana Department of Health and Hospitals (2006) indicate that the elderly were by far those most likely to die in the storm. Months after Katrina, concerns have shifted to issues with toxic contaminants and poor environmental quality at homes, schools, and playgrounds. Other health concerns for children are the ability to cope, process, and recover from the trauma and disruption; we found that children exhibited a range of emotional, behavioral, and mental health difficulties.

Once the reality set in that the families would not be returning to New Orleans any time in the near future, children began expressing more uncertainty and asking more questions about the future. There were many emotional issues for the children, including fear, disbelief, and sadness. Several people, including parents and professionals, felt that the older the child, the more the anxiety because of their awareness of the magnitude of the storm, while very young children were often

seemingly completely unaware or unaffected by the degree of familial upheaval and community stress. However, there was certainly evidence that very young children did have some difficulties. According to one teacher, the youngest children would cry, use baby talk, and have potty training problems. Several parents of young children told us that their children did not want to leave them, even for short periods of time, and that in general, "clinginess" was a problem.

Children of all ages were dealing with the enormous stress and anxiety of living in shelters and not knowing if they would have a place to live when the shelters closed. Angela, a white mental health counselor at the Cajundome, recalled an interaction with a boy whose family lost everything:

> There was this one boy who got really close to the staff; he was sort of always hanging around us, probably age nine or so. He seemed to be really angry . . . So I was talking with him and I just said, "Oh, hey, buddy, what're you doin'?" He was like, "Can you give me some water?" And I said, "Sure." So I went to the staff room, grabbed a bottle of water, came back out and gave it to him. At a certain point, he—and I never, I did not ever feel threatened—but he took the bottle of water and put it over his head like this, like he was gonna hit me with that bottle. He held it over his head and he said, "If I hit you in the head, I will go to jail, right?" And I said, "Well, I don't know. But you're really angry and you feel like hittin' me in the head?" Trying to give voice to his feelings, but he kind of just put it down and he said, "If I was in jail I'd never have to worry about where I'm sleeping."

Angela was clearly upset by the depth of his anxiety as she recalled the interaction. Parents also had a hard time with their stress at the shelters; on one occasion we observed a young mother at the Cajundome hit her young child on the head several times as he sat crying in his stroller.

Children with any loss of life in their family were in a fragile state. In one school, we spent time with a young girl whose 2-year-old cousin died during evacuation; she had a "tummy ache" every day and instead of going to class, she came and sat with the school counselor. One eighth grader told us matter-of-factly that her grandmother, who died of natural causes during the hurricane, was in the girl's home "on ice" until the cemetery in New Orleans was reopened. She seemed to want to discuss this situation with anyone who would listen.

According to April, a daycare center assistant director, many children's anxieties and worries were largely a result of watching too much television coverage of the disaster. Some parents spoke to us of their efforts to hide media images from their children and to only turn on the television after they had gone to bed. Shashi also

felt that, in addition to avoiding television, it helped her children to evacuate out of state for several weeks so that her children were completely insulated from the trauma, and they were not constantly talking about the disaster in stores or at the playground.

Children also exhibited signs of depression. For instance, in a followup telephone conversation six months after Katrina with one participant, Debra, an African American single mother, revealed that her 9-year-old daughter, Cierra, seemed depressed and was losing her outgoing nature. When Debra put all of Cierra's pre-hurricane medals and certificates on the wall of her FEMA trailer to motivate her, Cierra insisted she take them down and get rid of them; at that point, Debra felt she needed to find a therapist for her daughter. Her concern was that Cierra would bury the stress and it would come out later. When we met Cierra in October, she was an exceptionally bright and bubbly child, who boasted that she got all A's and B's in school, and she proudly sang a song into our tape recorder. This also points to the importance of examining both short- and long-term effects of disaster on children.

For families who returned to New Orleans and for those contemplating their return in the near future, there were concerns about the environmental health risks to their children. The area from New Orleans to Baton Rouge is often called "Cancer Alley" because of the severe health risks from numerous chemical plants and refineries (see Roberts and Toffolon-Weiss 2001). Thus, even prior to the storm, children in Louisiana were living with various health risks. Many of the parents in our study spoke of deciding not to return because of the likely presence of increased contaminants in the soil and water. A few who had the financial resources planned to take specific actions, such as making their entire back yard into a slate patio upon their return so their young children would not dig in the dirt. Recent research supports the idea that the children of New Orleans will be at risk for many years and the Environmental Protection Agency (EPA) confirmed that there are chemicals in the soil sediments (Bullard 2006; Pastor et al. 2006).

**Short-Term Recovery.** The short-term recovery stage, typically the one year period following a disaster, historically has implied putting individual lives and a disaster-stricken community back together (Mileti 1999). Yet recovery, as past scholars have noted, is difficult to measure. In our study, the data support the idea that the early phases of recovery for children are based on many complex factors. However, there is evidence that the establishment of a predictable, consistent routine, and the return to a steady educational setting is an enormous part of recovery for children (also see Heft 1993; Maida et al. 1993). Having children settled both into a routine and back into school assisted the overall household recovery, as

parents could then, and only then, focus on other important issues such as home repairs or finding secure employment.

Recovery was hampered by the lack of contact with, and subsequent support from, friends and family. Children had to cope with being separated from family members and friends who had been a large part of their lives before the disaster. Many children were used to having extended family nearby for emotional and financial support. In the hurricane aftermath, families were scattered in shelters and temporary homes across the country. Karen, for instance, an African American mother staying in a Baptist Church shelter in Baton Rouge, spoke of how her 4-year-old son, Tyler, needed his old life and his extended family:

> *With my son, and him bein' four, it's hard to explain to him, or get him to understand, that you're not going to be where you were before. You're not goin' back to your old school. You're not goin' back to your old house. So now you have to deal with the fact that every day you have to tell him the same thing over and over. And he's sayin' the same thing: "When am I goin' back to my school? When am I goin' back home?" Or, "I'm ready to go back home. Call my sister. Call my brother. Where's my aunt?"*

In addition to missing family members, children also missed their friends. Jack, who was only five years old, showed an uncanny awareness of this situation. He told his mom that the thing he thought would be the most different after Hurricane Katrina was that "some of his friends wouldn't be able to come back because their parents lost their jobs and their homes got destroyed."

Recovery was also affected by the degree of loss incurred by the family and the family's financial situation. Parents noted that even if the first floors of their houses were destroyed, they were able to reassure their children that their bedrooms, stuffed animals, toys, and clothes were safe on the second floor. Yet, many of the children's parents were struggling financially. Some of these adults had lost their jobs, homes, and most, if not all, of their material possessions. By extension, the children were now suffering from economic hardship as well, which was of course also affecting their day-to-day lives.

Recovery for children also depended on the overall support they were receiving, the quality of the relationships in their lives, and the stability of their family and their previous lives. Christie, an African American married mother of three who was staying at a shelter in Baton Rouge, explained that her 5-year-old son blossomed at the shelter during their evacuation:

*He's actually done wonderful changes up here, I'm tellin' you . . . He's went to higher heights. He's just on another level now . . . We went back to the dentist about two weeks ago. The dentist, she was like, "Is that the same little boy that's been comin' in here all the time?" "Yes, he is. I don't know who he is, either, but yes he is." He's using bigger words, larger words. I mean, he's just blossoming, educationally-wise, mentally-wise. [What do you think it was?] I would say it was the school, but it started before the school. And the school is really helpin' him. The intelligence level of the people that go to this church, that come through here, it's amazing. I mean, I don't know if it was gettin' out of New Orleans.*

## Type II Outcomes: Actions Taken by Others

Children are vulnerable in disaster situations, and often others, usually the adults in their lives, such as parents or grandparents, and also teachers, public officials, and even peers, take steps to lessen that vulnerability. While Anderson (2005) discussed Type II Outcomes as the work of government and its agencies (such as FEMA) or of nonprofit organizations (such as the Red Cross), we expand this idea and in this section we examine the actions of parents and other primary caregivers, shelter workers, teachers, counselors, and school administrators, and other children.

**Parents and Primary Caregivers.** Parents and other adults with the primary responsibility for children took numerous actions to protect and support their children. First, as mentioned earlier, they made sure that their children were safe during the evacuation process and got them settled into a temporary living situation. After that, many parents worked to reestablish everyday routines for their children. Many of the parents agreed that one of the most difficult issues for their families following Hurricane Katrina was how they had to live in a constant state of flux and uncertainty. Thus, one of the first priorities for the parents was to reestablish as much normalcy and sense of routine as possible. Routines included things such as getting children back in school, playing games, doing homework, having dinner together, and sleeping on a regular schedule. At the Cajundome, we observed how parents had neatly made their children's temporary shelter beds and carefully placed stuffed animals on pillows to make things feel "normal" or like home.

This responsibility of reestablishing normalcy was all consuming and often more difficult for single parents. In New Orleans before Katrina, over half of all families had female heads of household, and nearly two in every five female-headed families lived in poverty in 2004 (Gault et al. 2005). One mother, Tina, a white woman in her thirties, separated from her 3-year-old son's father several months before the storm. While he helped a little with parenting over the summer, when the storm

hit, he evacuated to Los Angeles and decided to stay there permanently. Suddenly, overnight, Tina became a single parent and struggled to protect and provide for her child. Unfortunately, FEMA paid the same amount for each household, regardless of the number of children, so her ex-partner received the same $2,000 that she did. Her child factored heavily in her decision making and ultimately she decided to relocate to a town in Georgia that she felt would be a good place for her son. Other parents also struggled to support their children as the sole parent, not just financially, but also in providing comfort and emotional stability.

Taking care of children during evacuation and relocation was further complicated when there were two parents, but who were separated, divorced, or not living together and sharing custody. Several parents in our study spoke about this difficult situation, as they evacuated to different places and had to determine who their children would stay with and for how long and under what circumstances. One father, Luke, explained the complex and tiring schedule that he and his ex-partner had made to take care of their 7-year-old son Zachary. Every three days Luke would drive five hours from New Orleans to Houston to take care of him and allow his son's mother to then take care of her work and housing needs. While they both were placing their son's needs first, the situation caused a lot of tension for their family. Several other parents also spoke of the difficulty of negotiating shared custody during evacuation and relocation. Since Hurricane Katrina, child custody cases have soared, new problems have arisen as parents have relocated with children far from the other parent, and courts are struggling to make custody decisions under these unprecedented circumstances (Clemetson 2006).

In some cases, families with teenagers left them behind in other towns with relatives or friends while parents returned to New Orleans for jobs or repairing the family home. This way the teens could stay enrolled in their new, temporary school. Parents did this in the best interest of their children, but it was a trying experience for both the adults and the youths. One mother, Karla, thought this arrangement was too hard on families. She had suffered the death of two children many years ago, and she felt that the best thing that parents could do was to keep the immediate family together at all times during the ordeal.

As previously mentioned, some parents were concerned about environmental contamination in New Orleans, and thus refused to return until they could ensure their children's physical safety. Kate, a white mother in her thirties, noted that she did not trust the EPA's information on health risks to children following Katrina. Instead, she researched the situation herself before returning with her two children. She first called her pediatrician, who told her not to worry about the mold, but because she still felt uncertain, she searched the Internet and tried to find reports on the environmental conditions in New Orleans. She said: "We're desperate

to go back. I'm ready to be at home. But not at their expense." Deirdre, an African American single mother, expressed similar feelings: "Because of the contamination, it's not safe for my child, for my daughter. Maybe in a year's time, maybe two years. Right now, I'm not goin' back in that city for nothin'."

Sometimes, however, it was hard for parents to be able to help their children because they, the parents, were still suffering and coping and unable to see what they needed to do for them. Reverend Kimberly Morris, an African American minister and community leader who worked with families who evacuated to Baton Rouge, explained how parents often needed some guidance on how to help their own children, some of whom had seen dead bodies and feared for their own lives. Often, she said, she just needed to encourage parents to "pay attention" to the children. In one case, a mother decided not to talk to her 5-year-old daughter about the father's suicide during the disaster because she was not in an emotional place where she could help her daughter grieve. Reverend Morris, however, felt that the young girl already knew about her father and needed to talk about his death. In addition to helping parents devote attention to their children, Reverend Morris also wanted to make sure that parents felt they had some control over their family life. For example, evacuated families were encouraged to enroll their children in Baton Rouge schools, but if parents decided not to because they thought it would be too hard on their children, then the shelter directors and religious leaders did not force them; as Reverend Morris stated: "We are not here to inflict more pain; we want the parents to make these decisions for their children."

**Shelter Workers.** In addition to parents, we found that shelter workers and local volunteers were crucial in helping children who lived for long periods in shelters with their families. One shelter in Lafayette set up a drop off play area, where parents could leave their children for an hour or two while they worked on finding housing or assistance, took a shower or nap, or just took some needed down time. In this particular case, children had to be potty trained to stay at the child drop off area, so parents with the youngest children—often the ones that needed the break the most—were unable to use that service. Shelter workers also tried to set up book areas and other activity centers in the shelter. We witnessed one shelter volunteer, for example, playing a game of chess with a young boy. Several local businesses and large corporations, such as Wal-Mart and Toys-R-Us, donated toys and games for the children. In this particular shelter, they threw away any used donations because they felt that the children deserved new items. One volunteer, Laurel, had started a basketball clinic for girls and boys after school at the shelter. On one of the days we observed shelter activities, we accompanied Laurel as she made her rounds, encouraging any child she saw to head out to the basketball court to join in the game. At a smaller shelter in Baton Rouge, a local yoga instructor offered free

yoga lessons to the children, and the shelter organized community volunteers to take the children on several outings, including a day of roller skating.

At the Cajundome, shelter workers tried to make some exceptions for children who needed extra care. While babies could not be dropped off at the children's area, shelter workers tried to reserve the shelter "suites" for mothers with newborn babies or children with other special needs. Renee, one of the directors of the shelter, explained how one young girl with Down Syndrome could not handle the noise and chaos of the shelter and was screaming and scared. The shelter workers made sure that her family got one of the few suites. In addition, shelter workers tried to keep children safe and discouraged parents from leaving children alone while they were napping or offered to watch their napping babies so the parent could attend to other children.

Unfortunately, among the hundreds of shelter volunteers from around the country, some lacked the skills to help children in the most effective ways. In one situation we observed, for example, a young African American girl had skinned her knee playing basketball, was crying, and had come to find a band aid. First she approached the mental health table, and the white mental health workers, annoyed to be mistaken for a nurse and missing an opportunity to talk to an upset child, told her she was in the wrong place and waved her over to the nurses' station. Subsequently, the white nurse approached the little girl and scolded her, saying "Have you been out there playing basketball with the boys again?" While the nurse may have been trying to be lighthearted with that comment, we could tell by the girl's facial expression that she heard the reprimand, not the humor. In addition, there were various race, class, and regional issues at play in the shelter settings. Regional language may have been an issue, as an 11-year-old expressed that she did not like the shelter because there were "beaucoup people" and the volunteer shelter counselor from another region of the country had never heard the term before, yet in this case was able to understand that the young girl felt it was too crowded in the shelter. Other issues may be bigger. Frank, a licensed clinical social worker, described some meetings regarding children's behavior:

> Most of the referrals I got were young African Americans. Both girls and boys, but predominantly African Americans. With some of the differences, the white children tended to have parents that were more involved and would come in to meetings and were more . . . [pause] How do I want to say this? I don't know, just more agreeable, more willing to change. This is a big thing in the South, still, the racial divide. If you have an African American child who's in there with a parent and all the staff members are white, or most of 'em are white, you know, it creates a problem. If you don't address those things, that can be a problem, too. We're working on that down here. But that's always a big deal. You can say it shouldn't

*be and that this is 2005, but it's still a problem. Anyway, the parents we had of some of the African American kids, a lot of 'em, maybe they were working and they couldn't get off or they'd get fired. Sometimes you'd call 'em and they'd say they'd come and they wouldn't come. Sometimes they'd come and just argue, argumentative, they just didn't want to cooperate or be open to new ideas.*

This situation touches on the many serious race issues that exist in this nation during nondisaster times, and it illustrates the fragile dynamics of volunteers, professionals, and parents working to help children in disaster times. Past research on disasters has documented the problems and challenges of having solely white aid workers and predominantly people of color survivors using the disaster assistance (see Beady and Bolin 1986; Fothergill, Maestas, and Darlington 1999; Katayama 1992; Phillips and Ephraim 1992), although more attention needs to be dedicated to this serious issue.

Overall, however, we observed many positive interactions between shelter workers and families in both the large shelter in Lafayette, and the smaller Baptist Church shelter in Baton Rouge. Indeed, when one mother and daughter were overjoyed to hear that they had been offered a FEMA trailer to live in for 18 months, they came running to share the news and to hug the shelter worker who had helped them find the housing. Another Katrina survivor expressed her gratitude for the volunteers and shelter workers, and she remarked that they treated the evacuees like "kings and queens." Of course there were issues and times of stress, but it did seem that many of the evacuees and shelter workers developed strong bonds following Hurricane Katrina, and many of these were across class and race lines.

**Teachers, Counselors, and School Administrators.** Adults in the school setting were crucial in assisting children in the disaster aftermath. Principals, teachers, school counselors, and social workers often worked overtime to help children who were affected by Hurricane Katrina and to think of ways to lessen the impacts of the disaster.

In one situation, in an effort to recreate a familiar environment for their children, two teachers and a small group of parents from a New Orleans elementary school formed a new school during evacuation. They felt that establishing a new, temporary school with about 20 children from their old school would help their children deal with the upheaval caused by the disaster. The school, Bayou Schoolhouse, named by the children, was located in the back of an accounting office in a small town two hours west of New Orleans. The children could have attended local public schools, but the parents chose the new school, partly because one of the teachers, Mr. Fontenot, was willing to teach for free and was supportive of the idea of the temporary school. In addition, the parents wanted to keep their kids together,

rather than putting them in unfamiliar schools. The children took daily field trips to the bayou, the public library, and to the sugar cane fields in the surrounding areas. The school also arranged for special guests, such as a local singer who came to perform for the children the day we were there observing the students and teachers.

Reestablishing routine was also a central concern for teachers and school administrators. After the initial novelty of the "extended vacation" wore off, the children actually seemed to want a routine. One girl, Allie, thought "school work was too easy" now, and she told us she wanted her old math book back. One school principal, Mrs. Alarie, met with all of her staff two days prior to the school reopening (it was one of the first schools on the outskirts of New Orleans to reopen following the disaster) and began by emphasizing how important it was that they do everything they could to support the children during this time of immense uncertainty, but also that they provide the instruction and discipline that is expected and necessary in any school. She emphasized to her staff that *all* children were affected by the hurricane, even those who had not lost their homes. Thus, the staff needed to be sensitive to this issue. In the days after classes resumed, Principal Alarie and her teachers worked hard to maintain rules in the classrooms, although there was some recognition that exceptions to the normal rules would have to be made. For example, when a teacher pulled a student who was not wearing the required school uniform "knee socks" aside to reprimand her, she found out that the student had lost all of her clothing in the flood, and that she no longer had the appropriate attire to wear to school.

In addition to maintaining discipline, the teachers also worked diligently to counsel students and give them support if they needed it. They tried to help "old" students accept the newly enrolled students. They also tried to help the students cope with the loss of their old friends who had not returned to school because their families had relocated to other parts of the United States. The teachers, school administrators, and school counselors were also keenly aware that the students had either lost their own homes, or that they had family members or friends staying in their homes with them. One way or the other, the children's home life and hence routine would be disrupted and perhaps even somewhat chaotic, thus making it very difficult for the students to concentrate and complete their normal assignments. Teri, an elementary school counselor, was in favor of continuing to assign homework to students because she recognized the important role that schools play in establishing routine and normalcy in children's lives. At the same time, she was also sympathetic to the situation kids were in after Hurricane Katrina, and she advocated "cutting back" some on homework, even though she felt it was still important that the students do it. She said:

> *One mother told me about her two boys getting three detentions. They get lunch detention because they don't do their homework. So they have to finish their homework after lunch. She says, "We have six of us living in three rooms upstairs, so there's no private time." I said, "I understand." But you still want them to be as normal as possible.*

Beyond rethinking out-of-class assignments, the teachers also had to be flexible because they literally did not know who would be in class from one day to the next, as some families were returning to the school, while other families were relocating to different areas. With the influx of new students, there was also a shortage of books, desks, school uniforms, and school supplies. Thus, the teachers often had to improvise to make things run as smoothly as possible. In one school where uniforms were required, teachers and parents started a uniform donation program to help displaced students or students who lost their clothes in the flood get new ones.

Schools also had to address disciplinary problems and new behavioral issues. Frank, a social worker and Red Cross volunteer, indicated that adolescents and teenagers who had been displaced by the storm, particularly boys, were exhibiting some behavioral issues. He was hired by one school district to deal with children who were acting out in the classroom, such as talking back to teachers or getting into fights with other students. One school counselor was very clear that in her school, the older the child, the harder the experience, as mentioned earlier. It is important to note that not all children were seemingly suffering from emotional problems. One fifth-grade teacher told us that some kids did not seem at all upset by the hurricane.[2]

**Children.** In addition to all of the actions taken by various adults, there were also many children and adolescents outside of the hurricane zone who found ways to help those youths who evacuated. One example was in the Baptist Church shelter in Baton Rouge. Christie, an African American mother in her thirties described her 5-year-old's birthday party held at the shelter. It was organized by the teenagers from the church congregation, and they worked hard to decorate the shelter and to devise songs and games for the young boy, Charlie. The party included all the teenagers standing in two lines with their hands at the top creating a tunnel that Charlie walked through as they sang to him. Charlie told his mother that it was his "best birthday ever."

Students themselves said that they tried to be welcoming to displaced students. Emily, a 9-year-old in Lafayette, remarked that she and her classmates were all trying to be "extra nice" to the new students, and for the most part the new children were "just like other kids" and "you can't even tell" who they are. However, Emily

did add that two of the new children were very quiet, and one boy, when asked by his classmates why he went to see his old destroyed house in New Orleans, did not answer. In a Catholic school, they developed a system, where new students were given a "buddy" who would help them with the adjustment to their new school environment.

### Type III Outcomes: Children's Actions

According to Anderson (2005), research has failed to examine the ways in which children themselves do things to reduce disaster impacts. The idea is that children are not passive in disasters; they are active observers and take actions before, during, and after that help themselves and others to cope with the disaster and subsequent disruption. We gathered data showing that children who were most directly affected by the disaster did take actions, such as communicating about the risk with both adults and other children, writing in journals and creating art, seeking out support and comfort from their friends, and helping other children recover.[3]

**Communicating about the Disaster.** Our research found that children communicated about risks and the subsequent hurricane disaster in a wide range of ways. Clearly, the youngest, preverbal children were less able in general to take actions to reduce their vulnerability and help themselves recover. Older children did talk about the event, although some more than others. For example, Shashi's daughter repeatedly asked her to tell stories about what happened in the hurricane, and she especially wanted her mother to talk to her about what happened to her bedroom. In a daycare center in Lafayette, the children who had lost their homes in the flood did not want to discuss their experiences. Some schools and shelters had counselors come in to have the children talk about what happened to them, but we heard on several occasions from parents and teachers that often the counseling was more problematic than helpful, in that it seemed to upset the children. Overall, it appeared to help children if they could talk, when they needed to, with someone they knew and trusted.[4]

We discovered in Louisiana that children coped with the disaster by writing in journals, creating disaster jokes and music, and drawing pictures. We observed elementary school-aged children keeping journals about their experiences. At the Bayou Schoolhouse, a new school assignment for the children was a journal writing project that enabled them to write and draw about their hurricane experiences. One teacher shared with us a copy of a journal that one of his second grade students, Heather, had been writing in following Hurricane Katrina. Each day the children were required to write at least three sentences in their journals. For Heather, almost every day in mid-September of 2005 began with the phrase "I hate hurricanes." On September 21, 2005, as Hurricane Rita was descending on

the southern United States, her entry read: "I hate hurricanes." "I hope it doesent [sic] hit Louisiana." "I wish hurricanes wold [sic] go away forever because they distroy [sic] to [sic] many things!" On September 26, 2005, she wrote: "I hate hurricanes!" and "I am glad I have food, a bed, and a house to go home to!" and drew a small picture of a house at the bottom of the page.

In addition to writing, younger students were also drawing pictures, thus expressing their thoughts and emotions through a visual medium. In the makeshift classroom of the Bayou Schoolhouse, the teacher had placed a sign on the wall that said "Words for Our Hurricane Adventure Stories." Below the sign, the students had posted their pictures and some word associations. The children drew pictures that included images of a crowded highway packed with cars and a levee with water pouring from the side. Words used to associate with these images included "grass dirty" and "disgusting water." An elementary school art teacher told us that "Kids will draw everything they normally would, but now there is flood water at the bottom of many of the pictures."

Some children invented new hurricane games. For example, two children who evacuated from New Orleans played a game they called "evacuation" in their new temporary home. In this game, they ran around their house with bags and tried to throw as many things in the bag as quickly as possible, as if they were frantically leaving their home before the hurricane. In a study of children following Hurricane Hugo, Saylor et al. (1992: 145) found that children also invented games (which they called "hurricane") where they would pretend to evacuate to their grandparents' houses or do repairs on their imaginary hurricane-damaged homes, and Gump (2006) reported that children created a game called "flood" that allowed them to reenact their families' evacuation in a flood disaster. In addition, according to a volunteer at the Cajundome, children used toy helicopters, ambulances, and other emergency rescue vehicles to reenact what they witnessed in Hurricane Katrina, a game that allowed them to help themselves process the experience.

**Maintaining and Relying on Friendships.** Children used their friendships as a support system throughout the crisis. By working to maintain friends, be with them, and connect with them, they were seeking ways for their friendships to provide a sense of security. In the relocation aftermath, children and youths spoke of wanting to be with their friends, to call them, to e-mail them, and, if possible, to enroll in the same schools with them. We saw this as an important aspect of their recovery and their actions to do something for themselves and others. Actively seeking this peer support and camaraderie appeared to be a self-coping mechanism.

Parents and teachers recognized that friendships were an important aspect of the children's recovery, and some schools tried to place friends in the same classroom. Luke, for example, knew it made all the difference for his son, Zachary, who got placed in a classroom in Houston with an old friend. Zachary also had two cousins who were close to his age living in Houston, which also seemed to be a tremendous help in his resettlement in a new city and new school. In addition, the children of the Bayou Schoolhouse also benefited from being with friends and former classmates from their New Orleans school. In our observations of their interactions, we could see how the familiar companionship and friendship provided them support and comfort. Months after the disaster, children were still asking to see or talk with old friends. In a followup phone call nine months after Hurricane Katrina, Karen told us that her now 5-year-old son Tyler still asks to call or visit his old friends from his destroyed neighborhood in New Orleans East. These requests demonstrate the importance of friendships and the ways that even very young children may actively seek out the support of their peers.

**Helping Others.** According to the National Mental Health Association (2005), in the aftermath of a disaster, adults should help children find ways to help others, no matter what age the child. It is this process of helping others deal with tragedy that can reassure and help children cope with their own anxiety and sense of loss. We found that children of all ages were engaging in a variety of helping activities following Hurricane Katrina, such as helping take care of younger children and assisting their parents with household chores.

In the shelters, there was quite a bit of evidence of the ways in which older children assisted with younger children. At the Cajundome, Angela, a mental health counselor, observed the following help done by the children:

> *Predominantly I see the girls—and really I hate to say it, but—really being stereotypical in gender roles as far as caretaking, acting like mothers, making sure baby has the appropriate clothes on so they're not too hot or not too cold, feeding the baby for mom, stuff like that. Whereas boys are . . . I notice older brothers, they appear to be siblings, I don't know if they are, but older brothers playing catch with the other kids, engaging them in some kind of active play.*

While the activities were gendered, it is clear that these older children are finding ways that they can give assistance to younger siblings or other young children at the shelter.

During the focus group at the Baptist Church shelter, the four mothers strongly agreed about the ways all of the children got along and helped with the younger

children. Karen remarked that "the older ones, they comfort the younger ones," and Christie added "they're sharing, all of 'em are sharing toward each other. They went through this situation that brought them together, and that's really important, that they're together, that they play well together. It's gonna help them to get through."

## Conclusion

This research described and analyzed the experiences of children and their families in the aftermath of Hurricane Katrina, discussed what was done on behalf of children to reduce their vulnerability, and illustrated various things that children did for themselves and for others in order to lessen the impacts of the disaster. Despite the diversity of experiences and family situations, there were also many commonalities in terms of how parents and others worked to safely evacuate children, get them enrolled in school, and reestablish routines, and the ways in which children formed new friendships and tried to adjust to the upheaval in their lives.

As discussed earlier, children are vulnerable in disasters in many ways, and yet they also take various actions that protect themselves and others. Researchers have stated that looking only at children as traumatized victims is a "one dimensional categorization" that ignores their resilience and capacities (Kirschke and van Vliet 2005: 380). Our study supports the idea that children are both vulnerable in disasters and need assistance from adults, but also that they are resilient and can find ways to effectively cope (also see Jeney-Gammon et al. 1993). With that said, however, we want to stress the critical role of support agents for children. These agents include the adults and peers who help children and youth recover in the aftermath of disaster. From the homes of grandparents to the mass shelters with hundreds of people in one room, children need the support of adults and friends to cope with disasters. Indeed, these support agents are vital in helping children respond more effectively to the life stresses caused by disasters and other traumatic events (Vernberg et al. 1996). Past research on support agents finds that parents are often the single most important source of social support to elementary school-aged children following disasters (Heft 1993; Vogel and Vernberg 1993), while our research also demonstrates the different, but vitally important roles that teachers, disaster relief volunteers, shelter workers, and peers may play in the short- and long-term recovery of children affected by disasters.

Understanding children's experiences may help us to answer larger questions about disaster recovery. Anderson (2005: 165–166) asks: "To what extent does having injured children and youths restored to health, back in school, and employed contribute to household and communitywide recovery?" From this research, we believe we can begin to answer this important question and address some of the

uncertainty that exists about recovery. We believe that having children restored to health and back in school is a—if not *the*—major cornerstone of both family and community recovery. When infants, young children, and teens are taken care of, adjusting, and reestablishing routines, there is a ripple effect, whereby others can then feel that there is solidity to the family and community and that other concerns can be addressed. In New Orleans, unfortunately, community recovery is far off, as children have not returned in large numbers and most of the schools have not reopened. Furthermore, the potential harm of children from the toxic chemicals in the soils and in the damaged buildings leaves one wondering about the potential for sustainable long-term recovery there. For families who have relocated to new areas, their household recovery can often be measured by the children's adjustment—including enrolling in new schools, making new friends, and finding a consistent routine.

## Policy Recommendations

Given the catastrophic damage caused by Hurricane Katrina, many important lessons must be learned, shared, and applied following this tragic event. While our findings are preliminary at this stage, there are several recommendations that are emerging from the data. First, the research points to the importance of schools for the recovery of families, children, and entire communities. Indeed, schools are central for a child's return to routine and normalcy. This is in alignment with the National Association of School Psychologists (2006), which has stated that schools will play an important role in helping young Hurricane Katrina victims cope with the disaster.

Second, along these lines, attention needs to be paid to how schools welcome and integrate their displaced children. For example, it may benefit children if schools assign displaced students in classrooms together and have programs in place so that the children's adjustment is aided. Additionally, teachers and school administrators need to be aware of diversity issues. In disasters, as in Hurricane Katrina, some children will end up attending schools with children of different racial, ethnic, class, and religious backgrounds from their previous schools. In these situations, there is significant need for cultural sensitivity on all sides and this should be facilitated by the teachers and school administrators. Schools also, if possible, should waive tuition, fees, and strict uniform requirements while students and their families are recovering.

Our research also demonstrates that in addition to family members as primary caregivers, teachers, school administrators, daycare providers, disaster relief volunteers, and shelter workers all contribute in different, but important ways to children's postdisaster emotional and social wellbeing. Thus, we recommend

that individuals who work closely with children in daycare centers, schools, and evacuee shelters receive information regarding the importance of routine, but also of being flexible, in the aftermath of disaster. These individuals obviously play a crucial role in not only helping children but, by extension, entire families, recover from disaster.

Given the level of loss and devastation caused by Hurricane Katrina, many children were forced to live for long periods of time in mass shelters with their families. Although this type of situation is certainly not ideal, we found that there were things that shelter workers did to help ease the process. For example, tutoring programs, organized play activities, and child drop off areas not only helped the children stay active, these programs also gave the parents an opportunity to rest or take care of other important responsibilities. Thus, we recommend that disaster shelter coordinators support and continue to implement these programs. At the same time, we also recommend that care programs be put in place for children of all ages, including infants and toddlers, so that parents with the youngest children also have extra assistance. In addition, we urge mental health volunteers at shelters to step outside the traditional models to talk with children and families and look for new ways to reach those victims who may not want to approach the mental health table at a shelter. As in all of the scenarios discussed, it appears that demonstrating sensitivity, flexibility, compassion, and creativity will prove to be extremely effective approaches for helping children.

Finally, we recommend a reevaluation of FEMA disaster assistance to single parents with children. Following Hurricane Katrina, a single mother with children received the same amount of FEMA aid as an adult man with no children. In New Orleans, a city with a high percentage of poor single mothers and impoverished children (U.S. Census Bureau 2004), this was a significant issue for the wellbeing of children and one that deserves attention. A "one size fits all" approach will not address the needs of the most vulnerable populations struck by disaster, and thus we must reconsider the distribution of disaster aid.

As the research progresses, additional policy and research recommendations will emerge, but it is certain at this point that more attention needs to be paid to the welfare of children in disasters if we are going to reduce their vulnerability and lessen the impacts on them in future disasters. Children and youths have both unique experiences and distinct perspectives in disasters, as well as being a link for families to the world of public education, new knowledge, and perhaps even social services. By studying children in disasters we will be gathering information that could reduce losses and trauma for families and larger communities.

## Notes

1. In future work, we intend to interview children and adolescents directly about their experiences in a disaster. Given the time constraints involved with quick response research, for this project we were only able to receive approval from our universities' human subjects committees to interview adults while in the field.

2. However, this statement should be interpreted with caution, given the propensity of adults to underreport children's adverse emotional and psychological responses to disaster (see Mercuri and Angelique 2004).

3. In Anderson's (2005) section on Type III Outcomes, he focuses on the actions of adolescents, such as the formation of a youth subculture or how youths educate their parents about risk. In this study we gathered more data on young children, mainly as a result of the Louisiana public school system not allowing us to talk with teachers and counselors in the high schools. Thus, in many ways this section is shorter than the others because we have less data on teenagers. The data we have on young children, however, still points to the importance of what children do for themselves and others following a disaster.

4. Although there is no consensus regarding the best way to respond to children's emotional and mental health needs in the immediate aftermath of a disaster, many of the activities that disaster survivors report as most useful—such as providing abundant and accurate information to children, encouraging mutual support, and reestablishing daily routines—are not traditional mental health interventions (Saunders 2006).

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