

CH 3

The Context of Trauma



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On successful completion of this chapter you should be able to:

- 1) Recognize that psychological effects of trauma are mediated through a myriad of contextual factors
- 2) Describe the three components of the Disaster Ecology Model
- 3) Provide examples of risk and protective factors operating at individual, family, community, and societal levels
- 4) Recognize the relationship between degree of exposure to disaster and severity of psychological consequences

Key Concepts

- The child's psychological response to a potentially injurious or life-threatening disaster is influenced by **contextual factors** at the individual, family, community, and societal levels.
- Within each level, **risk factors** exacerbate psychological responses while **protective factors** mitigate the impact of disaster.
- The **Disaster Ecology Model** portrays the encounter between forces of harm and children and families in harm's way in relation to the ecological context.
- The **Population Exposure Model** portrays the relationship between degree of exposure and extent of psychological consequences.
- Any **disaster** affecting the family has reverberating effects on the child.
- **Poverty and race/ethnic minority status** elevate disaster risks at every stage.

Colombia: Narino (Tumako) - settlement of internally displaced people 2005 © EC/ECHO/Karin Michotte

Introduction

The child's psychological response to a potentially injurious or life-threatening disaster is influenced by the complex array of contextual factors operating at individual, family, community and societal levels. Within each level, risk factors exacerbate psychological responses while protective factors mitigate the impact of disaster.

For children, **individual factors** include age, gender, race, educational level, medical and psychiatric history, previous history of trauma, and level of functioning before and during the disaster. The child filters the disaster experience differently depending upon the current stage of cognitive development and level of understanding of disaster causation. **Family factors** are particularly relevant determinants of the child's response to trauma and disaster. Included here are family structure and family cohesiveness, communication patterns, parental response to disaster impact and post-disaster family functioning. **Community and societal factors** include culture, ethnicity, socioeconomic status, political structure and governance, social support networks, and post-disaster community functioning.

The Disaster Ecology Model

Disaster ecology incorporates the principles of social ecology and examines the interrelationships and interdependence of the social, psychological, anthropological, cultural, geographic, economic, and human context surrounding disasters and extreme public health events (Shultz, et al., 2007).

Many aspects of the environment influence the child's life and behavior. Children exist within a family unit that connects to other systems: extended family, friends and peers, local neighborhoods, schools and larger surrounding communities. All of these systems exert influences on the child although the greatest influences tend to come from those life systems that are closest to the child. For example, for many children, the family unit is the most central and influential, followed by the network of friends and peers,

followed by the school and local neighborhood. The social ecological perspective supports the contention that the child's psychological and social response to disaster and trauma is determined by influences that operate and interconnect at many levels including individual, family, community and societal.

The **Disaster Ecology Model** (Shultz, et al., 2007) was developed to explicitly examine how disasters simultaneously produce an array of physical, medical, psychological, and behavioral effects. The three components of the Model are 1) the forces of harm, 2) the affected population in harm's way, and 3) the ecological context. The Model provides a framework for simultaneously considering the interrelationships among these three components:

Components of the Disaster Ecology Model

Forces of Harm	Disaster hazards
Children and families in harm's way	Children directly threatened or impacted by the forces of harm, or indirectly sustaining loss and change associated with the disaster event
Ecological Context	Risk and resiliency factors, operating at many levels, that influence the degree of physical and psychological harm sustained during a disaster or extreme event

The remainder of this chapter discusses the elements that comprise the Disaster Ecology Model, focusing on the exposure and context factors that shape the psychosocial responses to disasters (Table 3.1).

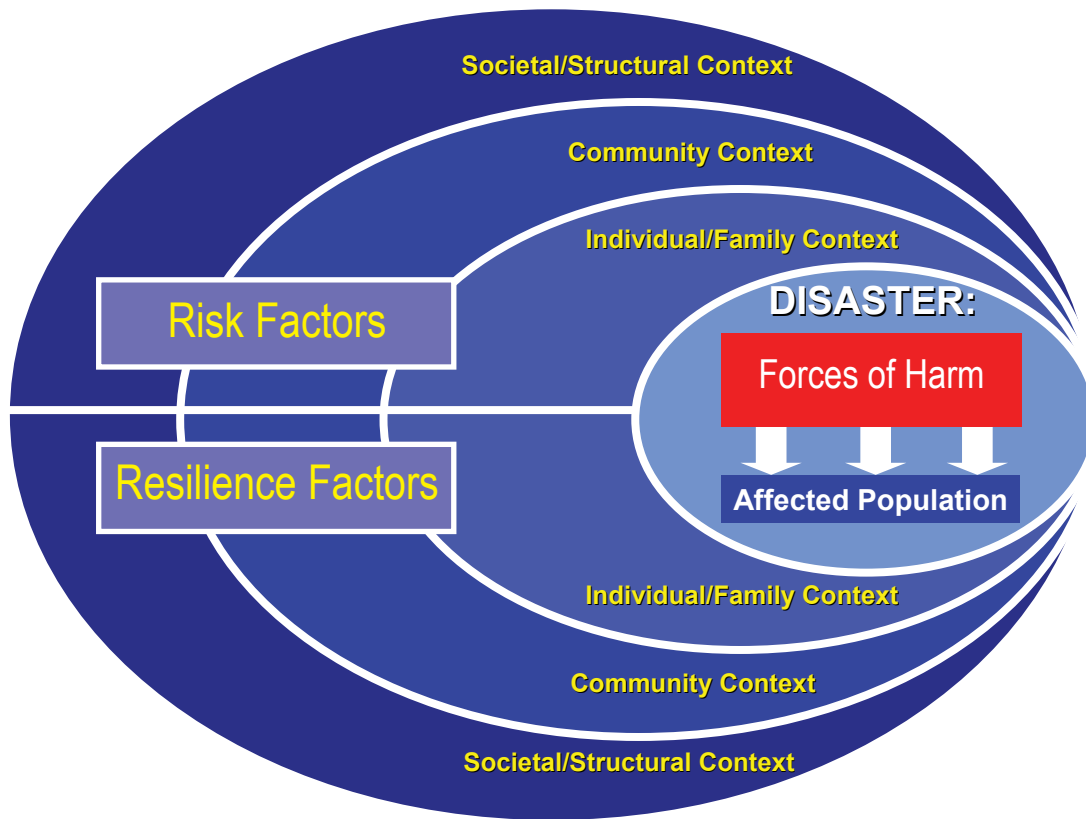


Table 3.1 Factors that shape psychosocial responses to disasters

Exposure Factors	Individual Factors	Family Factors	Community/Societal Factors
<ul style="list-style-type: none"> • Intensity and duration of exposure • Direct involvement in the disaster • Separation from loved ones and caretakers • Witnessing the event • Knowing someone who was injured or killed • Personal injury • Exposure to brutal death and gruesome scenes • Degree of life threat • Child's subjective experience at the time of exposure • Exposure through the media 	<ul style="list-style-type: none"> • Age • Gender • Cognitive and maturational development • Pre-disaster presence of psychopathology • History of exposure to traumatic events • Subjective appraisal of the stressor • Social support • Effectiveness of adaptive and coping styles 	<ul style="list-style-type: none"> • Parental response • Parent symptom choice • Family atmosphere • Parental over-protectiveness • Separation from parents and siblings • Prohibitive response to regression • Reversal of the dependency role 	<ul style="list-style-type: none"> • School community • Social support networks • Community socio-economic status • Political structure and governance • Culture/ ethnicity

1. Exposure Factors

The most powerful predictor of psychological morbidity in children is the intensity and duration of traumatic exposure. Magnitude of exposure relates to such factors as proximity to the zone of impact, personal injury, death or injury to family members or loved ones, separation from caretakers, degree of perceived life threat, and the psychological responses of parents or family members (the “contagion” effect).

The survivor’s subjective appraisal of the disaster or trauma experience also relates to the occurrence of adverse psychological effects. How the individual defines the traumatic situation, and the meaning he or she imposes on the event, are strong predictors of outcome. Feelings of helplessness, hopelessness and panic, and the conviction that one is going to die, increase the risk of psychological morbidity in the aftermath of disaster (Pfefferbaum et al., 2002; Yule & Udwin, 1991; Watson & Shalev, 2005).

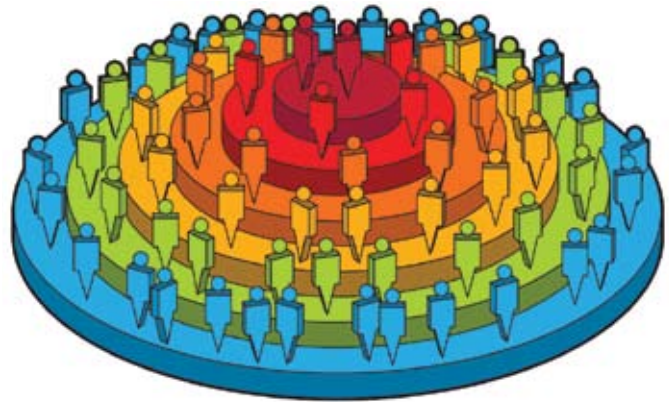
Table 3.2 Exposure Risk Factors

- Intensity and duration of exposure
- Direct involvement in the event
- Separation from loved ones and caretakers
- Witnessing the event
- Knowing someone who was injured or killed
- Personal injury
- Exposure to brutal death and gruesome scenes
- Degree of life threat
- Child’s subjective experience at the time of exposure
- Exposure through the media

In the **Population Exposure Model**, the degree of exposure is portrayed using a color gradient, with inner rings of extreme exposure presented in shades of red and progressively larger rings “cooling” toward the greens and blues. The model visually reflects research findings that “the individuals who are most personally, physically,

and psychologically exposed to trauma and the disaster scene are likely to be affected the most,” (DHHS, 2002, 2004). Exposure to a traumatic stressor may be the result of on-scene physical impact, witnessing the event directly, media exposure or interpersonal connectedness to the disaster victims (Pine & Cohen, 2002). Exposure and psychological distress extend far beyond the impact zone to include persons distant from the scene and remotely connected to the event.

The Population Exposure Model



Sources: DHHS, 2004, 2005

- ▶ Community victims killed and seriously injured. Bereaved family members, loved ones, close friends.
- ▶ Community victims exposed to the incident and disaster scene, but not injured.
- ▶ Bereaved extended family members and friends. Residents in disaster zone whose homes were destroyed. Rescue and recovery workers. Medical examiner’s office staff. Service providers immediately involved with bereaved families or obtaining information for body identification and death notification.
- ▶ Mental health providers. Clergy. Chaplains. Emergency health care providers. Government officials. Members of the media.
- ▶ Groups that identify with the target-victim group. Businesses.
- ▶ Community at large.

Direct impact survivors: Aligned with Population Exposure Model, for children, severity of posttraumatic stress symptoms has been found to be directly related to their proximity to the zone of impact. As examples, the highest rates of posttraumatic stress symptoms were found for:

- Children inside a movie theatre that was hit by a tornado (Bloch et al, 1956)
- Children who were closest to a jungle gym on the playground where a child was killed during a school shooting (Pynoos et al., 1987)
- Children in the immediate path of raging Australian bush fires (McFarlane, 1987)
- Children exposed to the peak winds in the “eyewall” of Hurricane Andrew (Shaw, 1995, 1996)
- Children who were trapped in attics and stranded in flood zones during Hurricane Katrina, including those who believed they were going to die, those who were physically injured, those who lost their homes and were displaced, those who lost a parent or family member to death from Katrina and those who were separated from parents and caregivers during and after the storm.

Direct witnesses: These individuals are visual witnesses but not directly harmed in terms of injury, property loss or loss of a family member. Adults and children who directly observed the collapse of the World Trade Center towers on September 11, 2001 or observed persons jumping from the upper floors of the towers were direct witnesses.

Indirectly exposed: Children who are physically distant from the site of disaster but have familial or friendship bonds with an individual who is injured or killed are at risk for psychological trauma.

Disaster responders: This includes the first-line responders, rescue and recovery workers, emergency health care services providers, government officials, members of the media, and mental health professionals. The Population Exposure Model makes salient the fact that disaster survivors and disaster responders alike are affected psychologically during extreme events. First line responders are unusually vulnerable to psychological

impact as they quickly respond to cries for help; are exposed to the powerful images, sounds, and smells of the disaster scene; and provide assistance during a mass causality event. This is relevant for children because first-line responders are also parents. Moreover, children may witness, directly or through media viewing, the powerful reactions experienced by responders.

The community at large: Posttraumatic symptom expression extended beyond persons who were directly exposed to the September 11, 2001 attacks to also include hundreds of thousands of residents of the New York City boroughs who were distant from the scene and only indirectly exposed (Galea and Resnick, 2005). A nationwide survey of children throughout the United States, ages 5 to 18, conducted three to five days after the September 11, 2001 attack, found that 35 percent reported at least one symptom of posttraumatic stress such as irritability, nightmares, avoiding hearing or talking about what happened, sleep problems or trouble concentrating (Schuster et al., 2001). A larger survey of 8,266 children in grades 4 through 12, conducted by the New York City Department of Health and Mental Hygiene, indicated that PTSD increased from a baseline of 2 percent to 10.5 percent, separation anxiety disorder doubled, and agoraphobia tripled following the attacks (Fremont, 2004).

Not only does direct, on-scene exposure produce psychological consequences but indirect exposure via television and media coverage or close interpersonal ties to a disaster victim may also produce distress and impairment. Television viewing is a very powerful indirect source of exposure (Pfefferbaum et al., 2001; Schuster et al., 2001). Routine television viewing of traumatic situations can generate fear reactions and sleep disturbances among preschoolers and elementary school-age children. Television viewing of the Challenger space shuttle explosion (Terr et al., 1999), the Oklahoma City Bombing (Pfefferbaum et al., 2001) and the terrorist attack on the World Trade Center was associated with emotional, behavioral and stress-related symptoms.

2. Individual Factors

At the individual level, the effects of trauma on children and adolescents relate to the nature of the exposure, mediated by an array of child-specific factors including the child's gender, cognitive and maturational development, pre-disaster coping skills, subjective appraisal of the stressor, history of psychiatric disorders, prior exposure to traumatic events, ability to elicit and use caretaker support, and the effectiveness of current adaptive and coping styles (Pine & Cohen, 2002).

Table 3.3 Individual Risk Factors

- Female gender
- History of separation or separation anxiety
- Limited cognitive and maturational development
- Limited pre-disaster coping skills
- Negative subjective appraisal of the stressor
- History of psychiatric disorders
- Prior exposure to traumatic events
- Limited ability to elicit and use caretaker support
- Limited effectiveness of current adaptive and coping skills

Gender effects: Boys are more likely to be exposed to traumatic events. Upon exposure, girls are more inclined to manifest higher rates of anxiety and mood symptoms and to meet diagnostic criteria for PTSD (Green et al., 1991; Shaw et al., 1995, 1996; Pine & Cohen, 2002). Shaw et al. (1996) found some evidence that while boys recovered more quickly from PTSD after Hurricane Andrew, boys manifested more disruptive behaviors than girls. Gender differences were also found in children's response to war-related trauma: girls exposed to the war in Croatia showed more symptoms of anxiety and depression while the boys manifested a lower level of psychosocial adaptation (Vizek-Vidovic et al., 2000).

Pre-existing psychopathology: Children with a history of emotional and behavioral problems (particularly anxiety disorders), cognitive impairment, learning disorders,

separation anxiety, or depression are at higher risk for psychological consequences following disasters.

Prior trauma exposure: In contrast to Nietzsche's aphorism, "that which does not kill you makes you stronger", the reality is that trauma exposure usually does not have an inoculation effect. In fact, repeated trauma exposure tends to produce a cumulative detrimental effect with loss of resilience and increased vulnerability to future trauma exposure.

Subjective appraisal: The child's subjective experience at the time of exposure to the traumatic situation is a predictor of psychological response. For adolescents onboard the sinking ship, *Jupiter*, the predictors of adverse psychological reactions were thinking that they would not escape, panic feelings and fear of dying (Udwin et al., 2000). The most prevalent and distressing subjective appraisals reported by middle-school children following the Oklahoma City Bombing were fear that someone in the family would be hurt, fear that a friend would be hurt, and feeling nervous and afraid (Pfefferbaum et al., 2002). These "peri-traumatic" responses were stronger predictors of adverse psychological outcomes than immediate physical exposure, relationship to a victim, and television viewing of the bombing.

Protective factors: Despite trauma exposure many children are able to adapt and regain full function with only minimal symptoms. Protective factors include the child's capacity to recognize and avoid dangers; personal resiliency (the capability to restore pre-trauma psychological equilibrium); capacity to manage anxiety; ability to use adults for caretaking activities; degree of social, community and family cohesiveness; and shared values and beliefs with those around them.

3. Family Factors

Since children are so dependent on parents and the family system, any disaster affecting the family has reverberating effects on the child (McFarlane, 1987; Green et al., 1991; Shaw 2000, 2003). The family's caretaker role is substantially compromised when the family is impacted by death, parental illness, or separation from loved ones, and when parents are emotionally distressed.

Children often mirror the anxiety and symptom choices of their parents. A number of parental behaviors and symptoms have been associated with increased risk of psychological distress among children, such as parental psychopathology, family emotional atmosphere, parental over-protectiveness, reversal of the dependency role and excessive prohibition of regressive behaviors (Shaw, 2000). McFarlane (1987) found that the mother's psychological response to an Australian bushfire disaster was a better predictor of the child's psychological response than the child's direct exposure. It is generally agreed that the presence of parental psychopathology and family dysfunction predicts higher levels of psychological morbidity in children. The psychological response of Lebanese children (5-7 years of age) exposed to war-related trauma was best predicted by

the level of depressive symptoms in their mothers (Bryce et al., 1989). Conversely, the existence of parental and family support mitigates the risk for posttraumatic stress symptoms. Other family features that effect psychological outcomes for children are marital conflict and instability, low socio-economic status, family history of neuroticism, and single parent home.

The reactions of children exposed to war-related trauma provide insights into children's reactions to disaster. War, which undermines the child's sense of security, has a devastating and enduring effect on the family and the social fabric of a community. In situations of war, family factors, mediated by social contexts such as displacement, play a crucial role in shaping the child's psychological response. Indeed, contextual factors interact with war-related traumas as a mediator of children's psychological response. Almqvist and Broberg (1999) found that the degree of family support predicts children's long-term emotional response to being a refugee. Higher rates of psychological morbidity were found among displaced Israeli families compared with non-displaced families with comparable levels of exposure to the Scud missile attacks during the 1991 Gulf War (Loar, Womer & Cohen, 2001).

Table 3.4 Family Factors

Pre-event	Post-event
<ul style="list-style-type: none"> • Family atmosphere • Parental psychopathology • Over-protectiveness • Dysfunctional parents • Marital instability • Single parent household • Low socioeconomic status • Family history of neuroticism (proneness to experience irritability, depression, and anxiety) 	<ul style="list-style-type: none"> • Parent symptom choice • Separation from parents, caretakers or siblings • Prohibitive response to regression • Reversal of the dependency role • Multiple stressors (loss of home, property and financial loss) • Prolonged displacement • Continued separation and estrangement from family and friends • Resource deterioration • Marital distress • Decline in perceived social support • Financial distress (unemployment)

4. Community/Societal Factors

Community refers to a social context with its network of relationships but more importantly, it refers to shared values, understandings and a common outlook as to what is important in life. A number of authors have observed the devastating psychological effects of disaster on a community and the ever-widening circles of involvement as one moves from directly-exposed individuals to family members, friends, neighbors, first-line responders, and the surrounding community of individuals who are distressed and suffer vicariously (Erikson, 1976; Taylor & Fraser 1981; Wright et al., 1990). The child's psychological vulnerability mirrors that of the community at large. Community disruption creates a broad composite of secondary stressors (Table 3.5). The loss of the school community through school closures, disrupted school activities, and emotionally distressed teachers and staff, represents a significant adversity for children (Pynoos et al., 1998).

The **impact ratio** in a disaster is the number of disaster victims as a proportion of all citizens in the disaster-affected community. The impact ratio serves as a predictor of adverse psychosocial outcomes for survivors at the level of the total community. In a study of ten eastern Kentucky counties affected by a widespread flood, the impact ratio consistently predicted rates of depression, anxiety, and somatic symptoms after controlling for the effects of personal loss. Survivors who fared most poorly were those who experienced high levels of personal loss in combination with high levels of community destruction. The capacity of survivors to cope and recover resonates with a number of factors associated with the community's "social surround," the combination of social support, socioeconomic status, political structure, governance, and culture/ethnicity (Somasundaram et al., 2003).

It is generally estimated that about 25-75 percent of individuals in a disaster impact zone will have a significant "stress response" that will temporarily compromise functioning during the impact phase and in the immediate aftermath. As many as 30-40 percent will continue to have significant psychological morbidity in the year following disaster (World Health Organization, 1992).

Alexander (2004) has suggested that in some instances, the effects of the disaster are so far-reaching, that the catastrophic impact becomes transformational. Powerful historical examples include Hiroshima, the Holocaust, September 11, 2001, the Indian Ocean tsunami, and Hurricane Katrina. Alexander states, "cultural trauma occurs when members of a collectivity feel they have been subjected to a horrendous event that leaves indelible marks upon their group consciousness, marking their memories forever and changing their future identity in fundamental and irrevocable ways."

Social and community support: Each child, and the family unit as a whole, is affected by the quality of social supports and social infrastructure. Disasters may produce devastating effects on available social supports through breakdown of communication channels, displacement of populations, separation of loved ones, death and debilitating injury. The child may be impacted by the closure of schools and community programs where children congregate. Somasundaram et al. (2003) have observed that "disaster victims often find it difficult to maintain supportive relationships just when they need them the most". In the aftermath of Hurricane Andrew, rates of divorce and family violence increased. Within a community, disaster recovery is more challenging for families of minority status, single-parent families, families with persons with special needs, and displaced or refugee families.

Socio-economic status and poverty: The unfavorable association between poverty and mental health has been described worldwide throughout history (Costello et al., 2003). Socioeconomic disadvantage negatively affects children's mental health and is associated with decreased intelligence, academic achievement, and social and emotional functioning (Gilliam et al., 2007). Family and neighborhood poverty is associated with a poor physical home environment and insufficient parental warmth, thus adversely affecting children's mental health. Behavior problems such as disobedience, interpersonal conflict, and rules violations are more prevalent for children in households with low socioeconomic status (Achenbach et al., 1987). The negative influences of socioeconomic disadvantage on child behavior are mediated by chronic exposure to stress and uncertainty and by dysfunctional

Buffalo Creek Disaster: Loss of Community

Kai Erikson (1976) described the after-effects of the Buffalo Creek, West Virginia flood, which occurred on February 26, 1972. Following torrential rains, a slag dam ruptured, sending millions of gallons of water cascading down a narrow mountain hollow. Without warning, flood waters destroyed a series of villages downstream from the dam. Survivors described the experience of losing their homes and simultaneously losing their sense of community.

“We was like one big family. Like when somebody was hurt, everybody was hurt. You know I guess it was because it was the same people all the time. I don’t know how to explain it. It’s a good feeling. It’s more than friends. If someone was hurt, everybody was concerned, everybody. If somebody lost a member of their family, they were always there. Everybody was around bringing you something to eat, to help. It’s a deeper feeling”.

“We did lose a community, and I mean it was a good community. Everybody was close, everybody knowed everybody. But now everybody is alone. They act like they’re lost. They lost their homes and their way of life...the people are all scattered. You can’t go next door and talk...there is no next door. You can’t laugh with friends. You can’t do that no more, because there’s no friends around to laugh with.”

“Well, I have lost all my friends. The people I was raised up and lived with, they’re scattered. I don’t know where they’re at. I’ve got to make new friends, and that is a hard thing to do. You don’t make new friends and feel towards them like you did with the people you lived with...but down here, there ain’t but a few people I know, and you don’t feel secure around people you don’t know”

The town destroyed in the flood's aftermath was described as a “ghost town, a dreary hollow, a graveyard...it changed from a community of paradise to Death Valley”.

Erikson (1976) noted that the “disaster syndrome”, with its prominent features of numbness, apathy, and depression, is a reaction to the knowledge that one’s community has been destroyed. To the individual survivor it is as if one’s whole world has been destroyed. The visible community is in ruins.

parenting practices that are harsh, punitive, inconsistent and unsupportive (Boyle & Lipman, 2002).

In addition, empirical data suggests that children from low-income families are more likely to suffer from chronic illnesses, mental health problems and disabilities than their affluent counterparts (Brooks-Gunn & Duncan, 1997; Duncan, Brooks-Gunn & Klebanov, 1994) and are less likely to have a regular source of medical care and preventive health care services (Ober, Bryant & Bach, 1995). An inverse relationship exists between household income and emotional and behavioral problems in childhood (Gilliam et al., 2007). In general, poor children are more likely to exhibit anxiety, social withdrawal, depression and disruptive behaviors than more affluent children (Duncan et

al., 1994). Persistent poverty is more harmful to children’s mental health than transient poverty because of greater economic deprivation (Brooks-Gunn & Duncan, 1997; McLeod & Shanahan, 1996).

Disasters directly impact the socioeconomic infrastructure of a community. Workplaces are destroyed, transportation and communication systems are damaged, unemployment increases and financial resources are diminished. Socioeconomic status is a significant predictor of both physical and the psychological impact of disaster (Fothergill & Peek, 2004). Low-income households and communities, often located in hazardous locales with minimal protection and few resources, are vulnerable to natural disasters. Once disaster has occurred, the low-income family is more

vulnerable to its consequences than its more well-to-do counterpart.

A recent review of studies on the relationship between poverty and disasters in the United States revealed that socio-economic status is a significant predictor of the physical and psychological impacts of disaster. Poor families were more likely than others to have family mental health risk factors. In disaster, they were more likely to experience psychiatric and psychological symptoms, physical injury, death and extensive damage to dwellings, as well as to encounter more obstacles during disaster response, recovery and reconstruction (Fothergill and Peek, 2004).

At the time when Hurricane Katrina struck New Orleans, 38 percent of children under the age of 18 years were below the poverty level, including 17,000 children below the age of six (Golden, 2006). Many children (40 percent) were separated from family members and 13 percent did not know where their families were located. Among these children, those living in poverty were disproportionately represented.

Table 3.5 Community/Societal Stressors

Pre-event	Post-event
<ul style="list-style-type: none"> • Family atmosphere • Level of preparedness • Lack of emergency management system resources • Poverty • Lack of civil government leadership • Ethnic and racial disparities 	<ul style="list-style-type: none"> • Loss of community infrastructure • Resource deterioration • Loss of health care services • Social support deterioration • Media attention • Closure of schools • Perceived or actual failure of government response





Source: FEMA Photo Library

Geography: Patterns of human settlement and housing construction play a role in determining vulnerability to disasters. For Hurricane Katrina, areas within New Orleans could be identified geographically as high-stress environments for families and youth based on limited employment opportunities, low educational attainment, high crime rates and poor health indicators (Curtis et al., 2007). These areas, definable before Katrina's impact, were precisely the areas that sustained the greatest disaster-related physical destruction, loss of life, injury, population displacement, interpersonal violence and looting. Much of this area has not been repopulated. The former residents have been broadly dispersed and the communities have ceased to exist in some cases. In fact, the "convergence" of multiple ecological, social, political and economic risk factors, all overlapping within a definable geographic area, led to high rates of mortality, physical illness and injury, and psychological impairment for residents of those areas (Walker & Warren, 2007).

Political Structure and Governance: Response and intervention following disaster exposure are greatly influenced by political structure and governance. A tension always exists between the responsibilities and resources of the national government and the disaster-affected local municipalities. Local governments often want the national resources but resent intrusion and regulatory guidelines.

Much of the impact of Hurricane Katrina on children reflected shortcomings in the planning and governance process (Dolan & Krug, 2006). Failures of planning included the inability of government to support children's healthcare services. Absence of viable evacuation strategies left many children unnecessarily in harm's way during the storm. The evacuation process that was improvised in the aftermath frequently separated children from parents and caregivers. No effective strategies were in place for reuniting children who were separated from their parents; a situation that was most egregious for separated infants and preverbal toddlers whose identities could not be readily confirmed to assure proper placement. Completely lacking were mental health interventions for children affected by Katrina, resources for non-English-speaking children, and customized care for children with special medical needs, leading to increased rates of death and morbidity (Dolan & Krug, 2006).

Culture/Ethnicity: Culture is defined as “the unique behavior patterns and lifestyle shared by a group of people, which distinguish it from others,” while ethnicity refers to “social groups that distinguish themselves from other groups by a common historical path, behavior norms, and their own group identities,” (Wseng, 2003). Culture “refers to manifest characteristic behavior patterns and value systems, whereas ethnicity refers to a group of people that share a common feature or root culture” (Wseng, 2003).

Approximately 70 percent of the United States population is composed of white, non-Hispanic citizens while the remaining 30 percent includes persons of African-American, Asian-American, Hispanic/Latino, and American Indian/Alaskan Native/Hawaiian Native ancestry.

Disaster is a social experience. Cultural groups, particularly those representing minorities or recent immigrants, experience the full range of disaster stressors and more. Added to challenges shared with members of the mainstream culture are additional stressors: language difficulties, lack of insurance, limited financial resources, discrimination from members of other cultural groups, unfamiliarity with community support systems, difficulty accessing disaster services, and immigration status issues. Recent immigrants may lack understanding of the systems of help that are available in their adopted culture. Members of some cultural groups are both marginalized and impoverished, increasing their vulnerability to

the destructive forces of disaster. In disasters, ethnic minorities may experience more adverse psychological consequences than members of the majority culture (Norris & Alegria, 2005). Disadvantaged and minority populations have a higher rate and degree of exposure to pre-disaster trauma and are more vulnerable to subsequent trauma when disaster strikes (Breslau et al., 1998). In fact, ethnic communities face increased vulnerability to disaster hazards across all disaster phases (risk perception, preparedness, warning, physical impact, psychological impact, rescue, recovery, and reconstruction) (Fothergill et al., 1999). These findings prompted Cuttler (2005) to assert, “Disasters are income neutral and color-blind. Their impacts, however, are not.”

Among children, ethnicity has been found to shape psychological outcomes following disasters. In an exhaustive review of the disaster literature, Norris et al. (2002) found four studies in which minority youth fared worse than majority youth (Garrison et al., 1995; La Greca, Silverman & Wasserstein, 1998; March et al., 1997; Shannon et al., 1994) and two studies in which the minority youth fared better (Garrison et al., 1993; Jones et al., 2001). Lengua et al. (2005) studied the psychological response of children following September 11, 2001, and noted that African-American children reported more avoidant posttraumatic stress symptoms and feelings of upset than Caucasian children.



Source: FEMA Photo Library

Table 3.6 Risk Disparities for Ethnic Minorities by Disaster Stage

Disaster Stage	Impact on Ethnic Minorities
Preparedness behavior	<p>Preparedness is the stage of the disaster life cycle encompassing all pre-event preparation activities and mitigation efforts in advance of a specific warning.</p> <p>For ethnic minorities, preparedness risks may include:</p> <ul style="list-style-type: none"> • Lack of information in native language • Lack of financial resources to obtain preparedness materials • Living in areas more vulnerable to damage from disaster hazards
Warning communication and response	<p>The warning communication and response stage entails receiving warnings or other risk communications regarding an immediate danger and taking some type of action in response to this warning, such as evacuation.</p> <p>For ethnic minorities, warning communication and response risks may include:</p> <ul style="list-style-type: none"> • Lack of information in native language • Lack of transportation • Evacuation difficulties
Physical impacts	<p>The physical impact stage is concerned with the actual and immediate effects of the disaster striking a community. Physical impacts include mortality, morbidity and injury rates, as well as economic losses. Very often these rates are directly related to safe housing.</p> <p>For ethnic minorities, physical impact risks may include:</p> <ul style="list-style-type: none"> • Ethnic group members may live in housing that is structurally unsafe
Emergency response	<p>The emergency response period occurs in the immediate aftermath of the disaster.</p> <p>For ethnic minorities, post-impact risks may include:</p> <ul style="list-style-type: none"> • Cultural insensitivity of emergency personnel • Limited access of responders to victims • Lack of information • Immigration status as a barrier to seeking/receiving benefits • Language difficulties
Recovery	<p>The recovery period refers to the first full year following a disaster.</p> <p>For ethnic minorities, recovery phase risks may include:</p> <ul style="list-style-type: none"> • Lower incomes, lower savings account balances, greater unemployment, less property insurance, and less access to communication channels and information • Lack of health insurance • Difficulty accessing disaster services and navigating bureaucracies
Reconstruction	<p>The reconstruction period follows recovery, extending several years beyond the disaster. Reconstruction surrounds a community's long-term restoration, including rebuilding, replacing infrastructure, obtaining loans, receiving assistance and locating permanent housing.</p> <p>For ethnic minorities, reconstruction risks may include:</p> <ul style="list-style-type: none"> • Physical displacement • Stigmatization of the affected area • Decline in standards of living • Loss of community and jobs • Economic decline

Source: Fothergill et al., 1999

Summary

The psychosocial impact of disaster is best understood within an ecological model in which there are reverberating effects on the social, political and cultural fabric of the community. Psychological effects of trauma exposure are mediated through myriad contextual factors operating at individual, family, community and societal levels. The Disaster Ecology Model portrays the dynamic push and shove of these risk factors and resiliency factors that shape the child's experience of a disaster event. The single most powerful predictor of the child's psychological response to disaster is the intensity of exposure. The Population Exposure Model presents the wide-ranging nature of persons sustaining psychological impact: while relatively few persons experience extreme exposure, expanding rings of persons sustain moderate or even minimal impact. For persons living in poverty and those of race/ethnic minority status, excess risks for psychosocial consequences exist at every stage of the disaster life cycle.