Disasters are abnormal situations involving normal people, and those affected by them demonstrate an enormous range of emotional expressions. Educators who are engaged in responding to natural disasters face many challenges. Educators are sources of emotional support for students, as well as sources of academic and social education, but they have limited resources to deal with the full range of students’ emotions, even in the best of situations. Educators must invariably struggle with a lack of experience and training, and are confronted by the need to use strained resources in the context of a chaotic, ever-changing environment. The rules seem unclear and constantly change—this is the very nature of disasters.

This chapter will offer guidance to teachers on dealing with the psychological impact of natural disasters in educational settings. Natural disasters include weather-related events (ice and snow storms, tornadoes, and hurricanes), toxic exposures (chlorine leaks), fires, and earthquakes. In all the above-mentioned cases, the goal of disaster mental health intervention is to mitigate significant emotional long-term harm and maximize successful adaptation strategies.

The Role of the School
In times of disaster, schools may serve to shelter the displaced community. Schools are often ideal because their size allows for large gatherings. Physically, they may be able to accommodate those with special needs and physical disabilities. Schools have parking lots, cafeterias, bathrooms and shower facilities, and audio-visual capabilities; however, in the long-term, schools cannot be all things to all people. Gyms and classrooms must be converted back to a place of learning, individuals will have to find other accommodations, and routines will need to be restored. Less tangibly, but still importantly, schools provide familiarity, shared experiences, cohesion, and a sense of community ownership and pride.

As students look to their teachers for encouragement and stability, the community looks to schools to provide safety in chaos and turmoil, but challenges exist. Educators are suddenly thrust into unfamiliar circumstances and must often work in an unstable and unpredictable environment. They are forced into roles they were not trained for or experienced in. This role change may be unwelcome and be its own traumatic experience. In some cases, the media may portray the response in an unfavorable light, and the mere presence of media can be distressing. Suddenly external eyes can magnify preexisting challenges, and there may be misperceptions and misunderstandings that are clearer in hindsight. Most people are not familiar or comfortable with that level of scrutiny. A goal of disaster intervention is to provide stability and predictability as quickly as possible; however, no one can predict how long and to what extent the physical and emotional effects will last.

Natural Disasters and Resulting Emotional Effects
Disaster environments are complicated, and no two disasters are alike. Multiple factors affect how and to what degree people will be emotionally and behaviorally affected. In some scenarios, the extent of damage to or availability of the school may be limited or nonexistent. Detailed response plans may not work as personnel may not be available, and deaths or injuries related to the disaster add significant stress to the situation.

The interaction of multiple factors shapes how the immediate and long-term response occurs. Predicting how long a disaster will evolve or how great the impact will be can help the school prepare and plan for how the students and community will respond, and appropriate material and personnel resources can be considered. Planning for how long the school will be inaccessible will help reduce anxiety and fear of the unknown. At the individual and community levels, a “one-time” or unique disaster, such as a toxic chlorine exposure from an overturned vehicle (with no physical school damage), will have less long-term impact than an unpredictable, unforeseen earthquake causing structural damage. In some cases, recurrent events may desensitize intense feelings, but in other cases, the new event
Symbolism and triggers are important concepts in the development of post-traumatic distress. If a disaster occurs when school is in session, individuals will make sensory associations between the trauma, school, and individuals at the school. When the school returns to its schedule, students (and even staff) may want to avoid the sensory triggers that worsen negative symptoms. Even seemingly insignificant objects or their absence may convey a sense of anger, fear, or loss to an individual. An on-property event and the associated symbols can disrupt the educational process more than off-property events when school is not in session. As educators move toward rebuilding or recovery, they should consider the shared meaning of objects. A given object may bring negative emotions for some, but a sense of closure for others. The same object can hold opposite significance for different individuals. For example, the site of a building that collapsed, killing adults and children, may be a source of tension in a community. Some will want the building rebuilt as a sign of recovery and strength, while others will want the structure removed because its very presence reminds them of their loved one’s death or injury. These types of schisms and disagreements about how to recover may undermine the collaborative process necessary for rebuilding.

Finally, the nature of community and individual exposure to a disaster influences the ways in which students and staff are affected. Disasters can either be evolving or one-time events. For example, a flood may rise and fall for days or weeks, or there may be aftershocks after an earthquake. These types of situations give the sense of an emotional rollercoaster with ups and downs; in contrast, a toxic leak may clear after a few hours. The psychological impact of these events is different because in the case of the former event, the community becomes fatigued after increased anxiety and poor sleep for an extended period of time. Another aspect of how people respond to the disaster is the degree to which the individual was exposed to the trauma. Those who were more directly exposed (witnessed a death or accident) commonly experience a greater psychological impact than those on the periphery (someone who was evacuated on the other side of campus). The immediate exposure is different, although both cases have a psychological impact. In these cases, a form of psychological triaging may help identify those who may be more vulnerable to significant emotional distress.

Disaster Experiences: Five Phases

Disasters and disaster response tend to be dynamic, evolving events. Zunin and Meyers conceptualize these phases as warning, rescue or heroic, honeymoon, disillusionment, and recovery and reconstruction. The timing of these phases, whether or not they are present, and the extent to which they occur, are disaster specific. For example, some disasters do not have a warning phase. Models like this can help conceptualize how individuals and communities are progressing from the initial stages of a disaster into the long-term recovery, and common emotional responses may be anticipated.

Some natural disasters have a warning phase. In a hurricane, there may be days of warning and uncertainty prior to the hurricane that affect the lives of those preparing for disaster. The impending potential disaster is well known, and there may be time to react, enabling communities to avoid or mitigate the impact by moving out of the storm’s predicted path or boarding up windows. The warning phase is characterized by increased anxiety, worry, and vulnerability, but these emotions wax and wane as new information comes, and frustration may occur as the storm changes and predictions prove inaccurate.

When the event arrives, emergency service workers and those within the immediate disaster zone switch to the rescue/heroic phase, and the duration depends on how the disaster evolves. In ongoing events, such as a rising and falling flood, there may be a week-long rescue/heroic phase, as compared to a toxic exposure, where a school may be evacuated for an hour. It is at this time that a sense of unification for a common cause happens. This “fight or flight” period may bring shock, initial grief, and disorientation.

The next phase, the honeymoon, is relatively shorter. People often think, “it could have been worse,” and may feel grateful. There may be a sense of relief that the immediate danger is over, but this is generally short-lived.

In the next two stages, disillusionment as well as recovery and reconstruction, community emotions may be the most intense. Disillusionment brings elements of reality to the situation. Individuals and communities begin to consider how the situation (or the worst parts of it) could have been avoided, and anger and blaming may be directed at individuals or systems. These intense emotions can be exacerbated by emotional and physical fatigue.

In the final stage, recovery and reconstruction, communities begin rebuilding the physical and emotional damage. Physical recovery may not begin for months or even years, so frustration is common, as many impatiently want “everything to return to
normal.” In many cases, “normal” will never occur, as the reality of vulnerability and potential for a similar disaster occurring again is realized. Planning for this disappointment and negative reaction can be anticipated and mitigated.

**Psychological Aspects of Disaster**

Disasters are abnormal situations, so most negative reactions to disaster are not “abnormal” or “pathological.” There is a large range of “normal” behavior, and it is important not to pathologize atypical behavior within a disaster setting. Nervousness, anxiety, and worry are common and manifest in different ways. Symptoms can be separated into emotional/affective, behavioral/physical, and cognitive manifestations (see Table 1). Education may reduce symptoms, often referred to as “normalizing.” Most symptoms will resolve without intervention; however, for a minority, the symptoms are highly distressing and affect daily functioning.

Adults and children react differently to stress, and children’s reactions are largely influenced by their developmental level and the reactions of adults around them. Young children lack the verbal ability to express their distress and concern. Thus, their distress often manifests in behavioral changes (see Table 2). In school, they may have decreased school performance, regression of behaviors, or an increase in aggressive play, possibly with themes of the trauma. Some of this increased stress may be triggered by upheaval within the home or feelings of misperceived guilt. Later, they develop different cognitive models for dealing with trauma. They are more likely to express their distress through behavioral outbursts, physical complaints, and nightmares. Importantly, children react to adult’s reactions. Adults may feel that they are masking and hiding the significance of a disaster, but children are often aware that “something is wrong.” The amount of information they should have and the manner in which it is disseminated to them is dependent on their developmental level, which is discussed below. Children are often afraid because of the unknown. The “unsaid” distress may increase children’s anxiety because they imagine the worst.

### Table 1. Emotional, Behavioral, and Cognitive Symptoms of Stress

<table>
<thead>
<tr>
<th>Affective/Emotional</th>
<th>Behavioral/Physical</th>
<th>Cognitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Chills</td>
<td>Re-visualizing experience</td>
</tr>
<tr>
<td>Agitation</td>
<td>Shaking/tremor</td>
<td>Intrusive thoughts</td>
</tr>
<tr>
<td>Panic</td>
<td>Shortness of breath</td>
<td>Reliving past trauma</td>
</tr>
<tr>
<td>Fear</td>
<td>Sweating</td>
<td>Confusion</td>
</tr>
<tr>
<td>Anger</td>
<td>Restlessness</td>
<td>Decreased attention/concentration</td>
</tr>
<tr>
<td>Shock</td>
<td>Change in sleep</td>
<td>Hypervigilance</td>
</tr>
<tr>
<td>Denial</td>
<td>Withdrawal</td>
<td>Uncertainty</td>
</tr>
<tr>
<td>Crying</td>
<td>Vomiting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Headache</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elevated blood pressure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rapid heart rate</td>
<td></td>
</tr>
</tbody>
</table>

### Table 2. Children and Adolescent Reactions to Stress

<table>
<thead>
<tr>
<th>Young Children (up to age 6)</th>
<th>Older Children (age 6-10)</th>
<th>Adolescence (age 11+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A sense of helplessness</td>
<td>Preoccupied talking about the event</td>
<td>A sense that the world is less safe</td>
</tr>
<tr>
<td>Fear</td>
<td>Diminished concentration</td>
<td>High-risk behaviors</td>
</tr>
<tr>
<td>Irritability</td>
<td>Sadness</td>
<td>Social anxiety</td>
</tr>
<tr>
<td>Crying</td>
<td>Anger</td>
<td>Feelings of being overwhelmed</td>
</tr>
<tr>
<td>Need for attention</td>
<td>Fear of recurrence</td>
<td></td>
</tr>
<tr>
<td>Seeking affection/Being clingy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There are many challenges when working in a disaster environment, but the overall goal is to resume learning without extended delay. For this to happen, schools must minimize the impact of the disaster by providing a safe learning environment for students, teachers, and staff. Long-term consequences of prolonged stress for teachers and staff include burnout, manifesting as emotional detachment, loss of mental energy, cynicism, and negative attitudes toward one’s self and others. Practically, there are many obstacles that make long-term care difficult. The community may find that some individuals want to recover and move on quickly, while others want more time to process the trauma. In these cases, administrators must be sensitive to these issues and support myriad concerns.

Even with all of these complexities, there are several general principles that educators may use when working with students in a natural disaster. Supportive, empathetic leadership is a critical piece of successful recovery and rebuilding. Perceived messages of “suck it up” or no response to the emotional concerns of teachers, staff, and students can increase distress and feelings of isolation and helplessness. Leaders must convey a sense of hope and positive expectations, while appearing honest and credible; however, being overly optimistic and sending overly encouraging messages lessens a leader’s credibility.

While not the focus of this chapter, it is worthwhile to note that there are many models of disaster mental health intervention. Few models are specific to children; however, the Sanford Model was developed by Nancy Sanford (following the Oklahoma Murrah Federal Building bombing in 1995) for a school setting. A recent, comprehensive disaster intervention is described in the Psychological First Aid (PFA) manual. This was developed by the National Child Traumatic Stress Network and National Center for PTSD and has intervention models for children. This manual is evidence-informed, detailing basic standards that can be used in actual events. Importantly, the PFA manual discusses cultural influences. These resiliency intervention models are designed to be time-limited and focus on the immediate crisis.

The concept of resiliency is widely used in disaster and crisis intervention, from local disasters to military settings. The basic concept is that, on balance, people are resilient and have inherent coping mechanisms to deal with disaster. Resiliency posits that even though the situation may be novel, most people recover on their own by using their existing personal resources (their inner strength). This concept works on the idea that most reactions are normal, not pathologic, and people may be more willing than not to talk about “resiliency” than “emotional trauma,” a term which has a negative connotation. Although most people will recover using resiliency, some individuals will require greater support.

Several groups are considered to be more vulnerable to the emotional effects of trauma. First, children and adults with preexisting emotional disturbances, or who were struggling with traumatic events prior to the disaster, are more likely to need greater mental health support. Another vulnerable group is students with intellectual challenges. Typically, these children have difficulty when losing their routines and being placed in novel situations. Students with emotional disturbances or cognitive challenges are often identified before the natural disaster so they can be considered early on for additional support and the rapid establishment of structure; however, some children have not been recognized prior to a disaster. Of these unidentified children, those who are absent more after than before the disaster,
and whose absence is not explained by relocation, accessibility
to the school, or extenuating circumstances (family member’s
death, injury, or illness), are of particular concern. School
personnel may not see that they are struggling and in need of
help. Follow-up calls to these children's parents may be useful
in identifying and treating these children so they can resume
learning in a supportive environment.

No matter what intervention model is used, educators can
use general tips in disaster settings. At the administrative level,
interventions need to be consistent and coordinated throughout
the school and district. The staff should use consistent messages
and language to facilitate understanding and a coherent, sup-
portive message. A challenge in trying to provide a consistent
message is to demonstrate sensitivity to diverse languages, races,
ethnicity, traditions, and beliefs. Unintended slights may be
perceived when these issues are not considered, and it may be
difficult to provide quick, accurate information in a school with
parents who speak many languages.

In addition to consideration of demographic factors, interven-
tions need to be age appropriate. Young students have different
needs, and the interventions need to be at their developmental
level. For example, young children do not understand that death
is permanent, but older children may be capable of understand-
ing this. Whether young or old, children and staff need the op-
portunity to express their grief in their own way. Administrators
can help with reassurance and confidence by dispelling rumors
and myths, which are often counterproductive and may increase
anxiety in a time of chaos. Setting a calm, direct, informative,
authoritative, nurturing, and problem-solving oriented tone will
help inspire the community, and modeling this behavior by sup-
porting teachers and the staff can allay many fears and concerns.

Conclusion
The interactions of natural disasters and emotions is highly
complex and difficult to appreciate during an event. It is difficult
to prepare for the unknown, and the realities of a natural disaster
are typically worse than planned for, since systems do not plan
for emotional consequences. Understanding the significant
long-term emotional effects may help educators better respond
to student, school, and community needs.

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