Warning signs are the reactions of an individual during and following a crisis event. They follow crisis event exposure and are a consequence of a youth’s subjective views of the threat presented by the crisis event (which are influenced by crisis exposure and personal vulnerabilities). Figure 1 illustrates the interactions among these variables. Warning signs include emotional, cognitive, physical, and interpersonal or behavioral reactions to crises. These reactions and their consequences are among the specific targets of crisis intervention efforts.

Whereas risk factors are variables that increase the odds of psychological trauma, warning signs (or crisis reactions) are variables that may also indicate that psychological trauma has in fact occurred. As such, they are important indicators of crisis intervention treatment priorities and needs. Especially when combined with risk factors, the presence and durability of warning signs indicates that an individual has become a psychological trauma victim and requires highly directive crisis intervention assistance and possibly longer-term mental health treatment.
Warning Signs

Early warning signs are those initial crisis reactions (typically displayed during the impact and recoil phases of a crisis event) that are not necessarily indicative of psychopathology. On the other hand, enduring warning signs are those more durable crisis reactions (typically displayed during the postimpact and the recovery and reconstruction phases) that are more likely to reflect an underlying psychopathology.

Although some reactions are expected following crisis exposure, there is no one normal or expected crisis reaction or set of reactions. Different individuals will have different reactions to the same event. Thus, this handout also examines factors contributing to individual differences in crisis reactions, including developmental level and culture.

**Early Warning Signs**

Especially in the immediate aftermath of traumatic event exposure, some crisis reactions are to be expected. In fact, research has suggested that some anxiety is normal and part of the healthy response to situations that require increased vigilance (Hobfoll et al., 2007). Thus, at least initially, crisis responders should avoid classifying initial crisis reactions as mental illness (see Table 1; Brymer et al., 2006; National Institute of Mental Health (NIMH), 2001; Ruzek et al., 2007). In most cases, these are normal reactions to unusual circumstances and will subside within a few weeks if students have the support of family, teachers, and friends. The classification of common crisis reactions as being an indication of psychopathology should not begin until a week or more after the crisis event has ended (McNally, Bryant, & Ehlers, 2003). However, when these common crisis reactions are especially acute or are combined with certain specific risk factors, they should be carefully monitored. For example, if the crisis event caused a physical injury or the death of a family member, or if the individual had a preexisting psychological problem or exposure to the crisis event was particularly intense or of long duration, the individual may require follow-up mental health crisis intervention (NIMH, 2001).

Although it is important to avoid overly pathologizing initial crisis reactions, it is also important to acknowledge that some students (typically a minority of those exposed to a crisis) will demonstrate more severe reactions that may signal the need for referral to a community-based mental health professional. Reactions include those that interfere with necessary activities such as sleeping, eating, drinking, decision making, and other essential life tasks. Not only do these functional impairments in and of themselves threaten physical health and welfare, but they also may predict anxiety disorders (Hobfoll et al., 2007).

<table>
<thead>
<tr>
<th>Table 1. Common Initial Crisis Reactions</th>
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<tr>
<td><strong>Emotional</strong></td>
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<td>Shock</td>
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<tr>
<td>Anger</td>
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<tr>
<td>Despair</td>
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<tr>
<td>Emotional numbing</td>
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<tr>
<td>Terror/fear</td>
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<tr>
<td>Guilt</td>
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<td>Phobias</td>
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<td>Grief</td>
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Note. Adapted from Psychosocial Issues for Children and Adolescents in Disasters, by A. H. Speier, 2000; and Disaster Mental Health Services, by B. H. Young, J. D. Ford, J. I. Ruzek, M. Friedman, and F. D. Gusman, 1998. Adapted with permission, Public Domain.

aExamples include perceptual experience, such as “dreamlike,” “tunnel vision,” “spacey,” or on “automatic pilot.” bReenactment play among children.
Warning Signs

Additional research has also shown that individuals who were acutely distressed during a crisis event (e.g., had extreme negative emotional reactions or demonstrated acute panic and dissociative states) were more likely to develop posttraumatic stress disorder (PTSD) than those who remained calm and in control of their emotions (Bernat, Ronfeldt, Calhoun, & Arias, 1998; Lawyer et al., 2006; Martin & Marchand, 2003; McFarlane & Yehuda, 1996). Similarly, Vaiva et al. (2003) reported that among individuals hospitalized after a motor vehicle accident, those who had “fright” reactions (operationalized as “having, at least momentarily, a complete absence of affect, or lack of thought, or loss of words, or being spaced out, or all of these symptoms”) had a 17 times greater risk of meeting PTSD diagnostic criteria (p. 397). In addition, Frommberger et al. (1998), who also studied motor vehicle accident victims, reported that individuals who developed PTSD demonstrated more symptoms of depression, anxiety, and PTSD a few days after the accident than individuals who did not develop such mental illness. Finally, among individuals who were hospitalized for blunt or penetrating trauma and were considered victims of community violence, the severity of acute traumatic stress symptoms, measured 5 days after the traumatic event, was the single most powerful predictor of PTSD a year later (Denson, Marshall, Schell, & Jaycox, 2007). These findings suggest that school-based mental health professionals responsible for evaluating psychological trauma should strive to identify those students who were observed or reported to be acutely distressed during the crisis event.

Another group of initial crisis reactions that has been suggested to be predictive of traumatic stress includes increased arousal responses (e.g., exaggerated startle responses, hypervigilance, irritability, and sleep disturbance). These reactions have been found to differentiate individuals who developed PTSD from those who did not develop this disorder. In contrast, persistent reexperiencing (e.g., distressing and intrusive memories) was suggested to be less worrisome in the days after a crisis event and considered to be part of normal reappraisal (McFarlane & Yehuda, 1996).

In addition to crisis reactions, maladaptive coping strategies—that is, counterproductive behaviors designed to manage or cope with crisis experiences and reactions—that present a risk of harm to self or others sometimes emerge as a consequence of exposure to crisis events (American Red Cross, 1991; Azarian & Skripchenko-Gregorian, 1998; Berman, Kurtines, Silverman, & Serafini, 1996; de Wilde & Kienhorst, 1998; McNally et al., 2003). For example, the presence of the following maladaptive behaviors would signal the need for an immediate referral to a community-based mental health professional: (a) extreme substance abuse or self-medication, (b) suicidal or homicidal thinking, (c) extreme inappropriate anger toward and abuse of others, and (d) the taking of excessive precautions (e.g., only sleeping with a weapon nearby). All caregivers should be aware of the potential for such maladaptive coping behaviors and recognize that they signal the need for referral to a community-based mental health professional.

Table 2 lists the initial crisis reactions that may signal the need for referral to a community-based mental health professional. These reactions may reach the point at which they meet the criteria for one or more diagnoses under the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000).

Enduring Warning Signs

Even for less worrisome initial crisis reactions such as persistent reexperiencing, if they endure (i.e., they do not remit or they worsen after a week or more), they may have developed into mental illness. Although initial crisis reactions might be adaptive or protective, prolonged states of emotional distress may lead to a variety of mental health challenges (Harvey & Bryant, 1998; Shalev & Freedman, 2005).

Acute stress disorder and PTSD are the two most common diagnoses associated with traumatic event exposure. Although treating students and staff who develop these serious and potentially debilitating psychiatric conditions is not typically a part of the school crisis intervention response (this is typically a part of the community-based mental health response to disaster), it is important for school-based mental health professionals to be able to recognize them and make appropriate referrals. For further discussion of PTSD and the identification, assessment, and treatment of this disorder in the school setting, see Nickerson, Reeves, Brock, and Jimerson (2009).
### Table 2. Warning Signs of Psychopathology and Indicators of the Need for Immediate Mental Health Crisis Intervention

<table>
<thead>
<tr>
<th>Category</th>
<th>Symptoms</th>
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<tr>
<td><strong>Peritraumatic Dissociation</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>- Derealization (e.g., feeling as if in a dream world)&lt;br&gt;- Depersonalization (e.g., feeling as if your body is not really yours)&lt;br&gt;- Reduced awareness of surroundings (e.g., being in a daze)&lt;br&gt;- Emotional numbness or detachment (e.g., feeling emotionally detached or estranged; lacking typical range of emotional reactions; having reduced interest in previously important or enjoyed activities; feeling as if there is no future career, marriage, children, or normal life span)&lt;br&gt;- Amnesia (i.e., failing to remember significant crisis event experiences)</td>
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<tr>
<td><strong>Intense Peritraumatic Emotional Reactions</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td>- Fear (e.g., of dying)&lt;br&gt;- Helplessness&lt;br&gt;- Horror</td>
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<td><strong>Intense Peritraumatic Hyperarousal</strong>&lt;sup&gt;c&lt;/sup&gt;</td>
<td>- Panic attacks&lt;br&gt;- Hypervigilance and exaggerated startle reactions (e.g., unusually alert and easily startled)&lt;br&gt;- Difficulty falling or staying asleep (sometimes a result of the reexperiencing symptom of disturbing dreams)</td>
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<tr>
<td><strong>Significant Depression</strong>&lt;sup&gt;d&lt;/sup&gt;</td>
<td>- Feelings of hopelessness and worthlessness&lt;br&gt;- Loss of interest in most activities&lt;br&gt;- Early awakening&lt;br&gt;- Persistent fatigue&lt;br&gt;- Virtually complete lack of motivation</td>
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<td><strong>Psychotic Symptoms</strong>&lt;sup&gt;e&lt;/sup&gt;</td>
<td>- Delusions&lt;br&gt;- Hallucinations&lt;br&gt;- Bizarre thoughts or images&lt;br&gt;- Catatonia</td>
</tr>
<tr>
<td><strong>Maladaptive Coping</strong>&lt;sup&gt;f&lt;/sup&gt;</td>
<td>- Extreme substance abuse or self-medication&lt;br&gt;- Suicidal or homicidal thinking, extreme inappropriate anger toward or abuse of others, or the taking of excessive precautions (e.g., only sleeping with a light on or with a weapon nearby)</td>
</tr>
</tbody>
</table>

<sup>a</sup>Bernat, Ronfeldt, Calhoun, & Arias (1998); Ehlers, Mayou, & Bryant (1998); Grieger, Fullerton, & Ursano (2003); Koopman, Catherine, & David (1994); Lawyer et al. (2006); Tichenor, Marmar, Weiss, Metzler, & Ronfeldt (1996); Weiss, Marmar, Metzler, & Ronfeldt (1995).<br><sup>b</sup>Bernat et al. (1998); Brewin, Andrews, & Rose (2000); Lawyer et al. (2006); Simeon, Greenberg, Knutelska, Schmeidler, & Hollander (2003); Viaiva et al. (2003).<br><sup>c</sup>Galea, Ahern et al. (2002); Galea, Vlahov (2003); Lawyer et al. (2006); McFarlane & Yehuda (1996); Tucker, Pfefferbaum, Nixon, & Dickson, (2000).<br><sup>d</sup>Frommberger et al. (1998); Gracie et al. (2007); Kaštelan et al. (2007); Azarian & Skripchenko-Gregorian (1998); Berman, Kurtines, Silverman, & Serafini (1996); de Wilde & Kienhorst (1998); Matsakis (1994); McNally et al. (2003).<br><sup>e</sup>Galea, Ahern et al. (2002); Galea, Vlahov (2003); Lawyer et al. (2006); McFarlane & Yehuda (1996); Tucker, Pfefferbaum, Nixon, & Dickson, (2000).<br><sup>f</sup>Frommberger et al. (1998); Gracie et al. (2007); Kaštelan et al. (2007); Azarian & Skripchenko-Gregorian (1998); Berman, Kurtines, Silverman, & Serafini (1996); de Wilde & Kienhorst (1998); Matsakis (1994); McNally et al. (2003).

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**Developmental Variations**

Crisis reactions are to a significant extent dependent upon the child’s level of development (Joshi & Lewin, 2004). The importance of recognizing the effects of developmental status on crisis reactions is emphasized by the results of several studies of PTSD symptoms among children (Carrion, Weems, Ray, & Reiss, 2002; Scheeringa, Wright, Hunt, & Zeannah, 2006; Yorbik, Akbıyık, Kirmızıgul, & Söählen, 2004). Collectively these studies suggest that developmental differences in children’s expression of symptoms, and difficulty verbalizing how a crisis event is affecting them, can significantly underestimate the number of preschool youth who have PTSD. For example,
Carrion et al. (2002) concluded that PTSD diagnostic criteria may not be appropriate for children and that, among children, the failure to meet all of the PTSD diagnostic criteria may "not indicate a lack of posttraumatic stress problems, but may be due to developmental differences in symptom expression" (p. 172). As a result, rather than seeking a threshold of symptoms, Carrion et al. suggested that a more precise diagnosis of pediatric PTSD would involve assessment of symptom intensity and the extent to which crisis reactions cause functional impairment. Similar conclusions were reached by Yorbik et al. (2004), who studied a sample of children ages 2 to 16 years who had presented with symptoms of PTSD following an earthquake. They concluded that current diagnostic criteria are not sufficient for PTSD diagnosis among preschool children and that newly developed fears and regressive behaviors should be added to the diagnostic criteria for this age group.

Given these observations, a critical component of crisis intervention is understanding how students’ developmental level influences their crisis reactions (and directs specific crisis interventions; Feeny, Foa, Treadwell, & March, 2004). The following are some of the unique features of crisis reactions at different developmental levels, based on several sources (American Psychiatric Association, 2000; Berkowitz, 2003; Cook-Cottone, 2004; Dulmus, 2003; Joshi & Lewin, 2004; NIMH, 2001; Yorbik et al., 2004).

In general, the crisis reactions of preschool youth are not as clearly connected to the crisis event as is typically observed among older children. For example, in this age group, reexperiencing the trauma might be expressed as generalized nightmares. Crisis reactions also tend to be expressed nonverbally and may include clinginess, tantrums, crying and screaming more readily and often, trembling, and frightened facial expressions. The temporary loss of recently achieved developmental milestones might be observed (e.g., loss of bowel or bladder control, bedwetting, thumb sucking, fear of the dark, or fear of parental separation). Finally, the preschool child may reexperience the crisis event through trauma-related play (that does not relieve accompanying anxiety), which may be compulsive and repetitive.

Reactions among younger school-age youth tend to be more directly connected to the crisis event, and event-specific fears may be displayed. However, to a significant degree, the crisis reactions of young school-age children continue to be expressed behaviorally (e.g., behavioral regression, clinging and anxious attachment behaviors, refusal to go to school, irritability, or anxiety). Diminished emotional regulation (e.g., irrational fears) and increased behavior problems (e.g., outbursts of anger and fighting with peers) may be observed. In addition, feelings associated with traumatic stress reactions are often expressed in terms of concrete physical symptoms (e.g., stomachaches and headaches). Older children may continue to reexperience the trauma through play, but such play will be more complex and elaborate (when compared with that of preschoolers) and often will include writing, drawing, and pretending. Repetitive verbal descriptions of the event (without appropriate affect) may also be observed. Given these reactions, it is not surprising that problems paying attention and poor schoolwork may also be noted.

As adolescents begin to develop abstract reasoning abilities, crisis reactions become more and more like those manifested by adults. A sense of a foreshortened future may be reported. This age group is more prone to using oppositional and aggressive behaviors as coping strategies as they strive to regain a sense of control. Other maladaptive coping behaviors reported in this age group include school avoidance, self-injurious behaviors, suicidal ideation, revenge fantasies, and substance abuse. Again, given these reactions, it is not surprising that older school-age youth and adolescents may have particular difficulty concentrating or may be moodier (which may cause learning problems).

Cultural Variations
Other important determinants of crisis reactions in general, and grief in particular, are family and cultural and religious beliefs. For example, in the dominant African American culture, coping is often viewed as an act of will that is controlled by the individual, and failure to cope is associated with weakness. In the dominant Asian American culture, feelings and problems are often not expressed so as to avoid losing respect. In both instances, crises can cause feelings of shame, which can affect crisis reactions (Sullivan, Harris, Collado, & Chen, 2006). Culture also influences the types of events that appear to be threatening in the first place and affects how individuals assign meaning to a threat. Culture also influences how individuals or communities express traumatic reactions, and how the traumatized individuals or communities view and judge their own responses (Tramonte, 1999).
Klingman (1986) highlighted the importance of cultural awareness. In describing the interventions conducted by crisis workers as they notified parents of their child’s death in a school bus accident, he stated that cultural awareness among crisis interveners:

proved valuable in that they were prepared for various culturally based manifestations of traumatic grief reactions, and thus refrained from requesting the use of sedatives in cases in which the parents’ reactions to a death notification on the surface seemed extreme but were in line with their cultural norms. (p. 55)

All providers of crisis intervention should inform themselves about cultural norms with the assistance of community cultural leaders who best understand local customs. For further discussion of this topic see Sandoval and Lewis (2002).

References


Warning Signs


