

Prediction of Posttraumatic Stress Symptoms in Children After Hurricane Andrew

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The authors used an integrative conceptual model to examine the emergence of posttraumatic stress disorder (PTSD) symptoms in 568 elementary school-age children 3 months after Hurricane Andrew. The model included 4 primary factors: Exposure to Traumatic Events, Child Characteristics, Access to Social Support, and Children's Coping. Overall, 62% of the variance in children's self-reported PTSD symptoms was accounted for by the 4 primary factors, and each factor improved overall prediction of symptoms when entered in the analyses in the order specified by the conceptual model. The findings suggest that the conceptual model may be helpful to organize research and intervention efforts in the wake of natural disasters.

Hurricane Andrew struck Dade County, Florida, on August 24, 1992, in one of the worst natural disasters ever to occur in the United States. Over 175,000 residents were left homeless as 30,000 houses, 19,000 mobile homes, and 12,000 apartments were destroyed (Slevin & Filkins, 1992). Destruction was more widespread than expected, and many children were terrified during the hurricane as their homes were damaged or destroyed. In the aftermath of Hurricane Andrew, thousands of children struggled to adapt to the loss of their homes, pets, toys, and friends. Parents, school personnel, mental health professionals, and members of the media expressed widespread concern about children's psychological reactions following exposure to such a traumatic event. Concerns were also expressed about which children were at highest risk to develop negative or adverse reactions. Concerns such as these guided the present investigation.

This study sought to examine diverse factors, some of which have been previously linked with children's responses to natural disasters, within the context of an integrative conceptual model. In a recent review of the literature on children's reactions to disasters, Vogel and Vernberg (1993) concluded that a major

limitation of work in this area was the relatively unsystematic, haphazard approach to the selection of variables for investigation. Although this is understandable, given the unexpected and disruptive nature of natural disasters, the result is that the specific factors that are related to children's reactions to disasters are not clear. In this study, therefore, the selection of factors was guided by previous theory and research (Green, 1991; Korol, 1990; Pynoos & Nader, 1988; Terr, 1989), as well as our own experiences with child disaster victims.

The main types of reactions of interest in this study were those of posttraumatic stress disorder (PTSD). Symptoms of PTSD are the most common types of psychological distress observed in children following a disaster and have been the focus of most disaster-related research (e.g., Lonigan, Shannon, Finch, Daugherty, & Taylor, 1991; Lonigan, Shannon, Taylor, Finch, & Sallee, 1994; Milgram, Toubiana, Klingman, Raviv, & Goldstein, 1988; Shannon, Lonigan, Finch, & Taylor, 1994; see also Vogel & Vernberg, 1993). According to the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (American Psychiatric Association, 1994), primary symptoms of PTSD include reexperiencing phenomena (e.g., recurrent thoughts or dreams of the disaster); avoidance or psychic numbing (e.g., avoidance of disaster-related activities, feelings of detachment); and hyperarousal (e.g., difficulty sleeping or concentrating). When limited in duration to 1 month, these symptoms are characteristic of Acute Stress Disorder (American Psychiatric Association, 1994). For children, associated features of these trauma-related stress disorders include physical symptoms (e.g., headaches, stomachaches), frightening dreams without recognizable content, omen formation, and guilt (American Psychiatric Association, 1994). In the present investigation, a major goal was to examine factors that were predictive of children's overall levels of these symptoms of trauma-related stress disorders.

In the subsequent sections, we present a summary of the relevant background literature that guided the selection of the four

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