

# Identifying Youth at Risk for Difficulties Following a Traumatic Event: Pre-event Factors are Associated with Acute Symptomatology

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This study examined factors related to children's acute symptoms following a potentially traumatic event (PTE) to more clearly identify domains that should be included in screenings of youth exposed to a PTE. In particular, the authors examined whether trauma category (i.e., sexual abuse/disclosure of abuse, intentionally perpetrated traumas other than sexual abuse, and unintentional traumas) was related to symptoms after controlling for other relevant factors. Participants were 112 youth presenting for clinical evaluation within a month of a PTE and their nonoffending caregivers. Using data from baseline assessments collected as part of a randomized controlled trial of a secondary prevention program, the following factors were tested in 3 hierarchical regression models: index PTE category, history of traumatic exposure, preindex event functioning, and parenting behaviors. Prior trauma exposure, preindex event functioning, and hostile parenting were uniquely related to children's symptoms in the acute posttraumatic period after controlling for time since the event and child age, but trauma category was not. Implications for identifying and referring children at high risk for poor outcomes in the early aftermath of a PTE are discussed. An exclusive focus on the event is insufficient and more comprehensive understanding of the child and family is required.

A large number of children are exposed to potentially traumatic events (PTEs) every year and approximately one in four will experience a PTE in their lifetime (Brown, 2005; Costello, Erkanli, Fairbank, & Angold, 2002). PTEs include sexual and physical abuse, domestic and community violence, motor vehicle accidents (MVAs), life-threatening illness and injuries, invasive medical treatments, and others. In many cases, children's stress responses resolve on their own. It is estimated, however, that anywhere from 20% (Laor, Wolmer, & Cohen, 2001) to more than 90% (Pine & Cohen, 2002) of children exposed to PTEs develop persistent, distressing symptoms. One review indicated that on average, 36% of children exposed to PTEs will develop posttraumatic stress disorder (PTSD; Fletcher, 2003). When youth at high risk for symptoms in the acute posttraumatic period are not identified and treated, their maladaptive responses and symptoms are likely to persist, increasing the risk

for a range of poor psychiatric, pediatric, and medical outcomes over time (Anda et al., 2006). This growing understanding of the complex sequelae of childhood trauma exposure highlights the need for targeted assessment and intervention strategies in the early posttraumatic period.

To date, there have been few systematic assessment strategies developed to help providers identify children at greatest risk for posttraumatic difficulties following exposure to a PTE. Early assessment is important because elevated symptoms in the acute posttraumatic period have been shown to be among the best predictors of poorer long-term outcomes and difficulties (Alisic, Jongmans, van Wesel, & Kleber, 2011; Pailler, Kassam-Adams, Datner, & Fein, 2007). Strategies that have been studied have focused primarily on children seen in emergency departments following MVAs (Kassam-Adams, Garcia-Espana, Fein, & Winston, 2005; Winston, Kassam-Adams, Garcia-Espana, Ittenbach, & Cnaan, 2003). Predictors identified by this pediatric injury work include physiological arousal (i.e., heart rate) in the emergency department, pre-existing behavior problems, separation from caregivers during injury, intense fear during the event, and type of injury (Kassam-Adams et al., 2005; Winston et al., 2003). Identifying key domains for assessment based on their association with increased risk for difficulties should help equip providers who see children following exposure to the broad spectrum of PTEs in disposition planning. The current

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study was designed to examine factors associated with symptoms in the acute posttraumatic period in a sample of youth exposed to a variety of PTEs.

The impact of differing trauma types has been examined in multiple studies, with a particular focus on the effects of sexual assault/abuse compared to other trauma types. Sexually based traumas have consistently been linked to maladjustment across a wide range of domains of functioning among adults (Frans, Rimmö, Åberg, & Fredrikson, 2005; Krupnick et al., 2004; Shakespeare-Finch & Armstrong, 2010; Trickett, Noll, & Putnam, 2011) with studies indicating that sexual assault/abuse may result in poorer adjustment than other trauma types. Among youth, the disclosure of past or ongoing sexual abuse can be traumatic in its own right. Caregivers' reactions to children's disclosures of child sexual abuse (CSA) are frequently upsetting and some caregivers do not believe or support their children (Hershkowitz, Lanes, & Lamb, 2007). Furthermore, a variety of stressful experiences often follow the disclosure, including child protective services involvement with the family, police and forensic interviews, medical examinations, and removal of either the child or perpetrator from the home (when the perpetrator is a family member). Other studies have shown that intentionally perpetrated traumas other than sexual abuse are also related to poorer responses than unintentional events, both in the acute posttraumatic period and over time (Forbes et al., 2012).

Although the nature of the index event is likely relevant to adjustment following PTE exposure, much of the empirical support for distinctions related to trauma type is based on studies of adults providing retrospective reports of trauma exposure and their current PTSD symptoms (Krupnick et al., 2004; Shakespeare-Finch & Armstrong, 2010). Few studies have examined the association of trauma type and symptoms in a sample of children; to our knowledge, there have been no such studies in the acute posttraumatic period. Additionally, although several prior studies included participants who had experienced multiple previous trauma types, participants were categorized based on their self-reported most distressing trauma (Frans et al., 2005; Shakespeare-Finch & Armstrong, 2010). This prior work did not consider how the other traumas endorsed might contribute to the symptoms reported. This omission is problematic given that the history of previous traumas has been shown to predict adjustment following a new PTE (Kaltman, Krupnick, Stockton, Hooper, & Green, 2005).

Prior studies examining the relation between the nature of an index trauma and posttraumatic symptoms also did not consider a variety of other factors that have been shown to be associated with a failure of recovery from a PTE. For example, pre-PTE functioning (Kahana, Feeny, Youngstrom, & Drotar, 2006) and parenting/social support have been linked to children's responses to a PTE (Scheeringa & Zeanah, 2001). No studies to date have examined the association of the nature of the index trauma and symptoms, while considering other contextual factors, in a sample of youth within the acute posttraumatic period.

To identify children at highest risk following exposure to a PTE, the current study had the following aims: to examine whether the nature of the PTE is associated with symptoms in the acute posttraumatic period when other contextual variables are considered, and to examine other potential risk and protective factors related to acute symptoms in a sample of urban, low socioeconomic status, symptomatic school-age and adolescent youth presenting for clinical evaluation following a recent PTE. Based on prior empirical and theoretical work, the following factors were included in the current study: index PTE category (Shakespeare-Finch & Armstrong, 2010), history of traumatic exposure (Anda et al., 2006), preindex event functioning (Kahana et al., 2006), and parenting behaviors (Nugent, Ostrowski, Christopher, & Delahanty, 2007). Because acute symptoms typically decrease over time following traumatic exposure (Kassam-Adams et al., 2011), we were interested in examining whether these factors would be associated with symptomatology over and above the amount of time that had passed since the event, though still within the acute stress period. We hypothesized that PTE category would be associated with children's symptoms, even after controlling for other contextual variables, child age, and time since the event. We also hypothesized that higher levels of children's acute symptoms would be associated with contextual variables, including worse preindex event functioning, more prior traumatic exposure, more coercive/hostile parenting behaviors, and less supportive/engaged parenting behaviors, after controlling for child age and time since the event.

## Method

### Participants

Data came from baseline assessments of a randomized controlled trial (RCT) of the Child and Family Traumatic Stress Intervention, an early assessment and intervention program to reduce children's posttraumatic symptoms following exposure to a PTE (Berkowitz, Stover, & Marans, 2011). The sample consisted of 112 youth (56 girls and 56 boys) and their nonoffending adult caregivers. Youth ranged in age from 7 to 17 years ( $M = 11.97$ ,  $SD = 2.81$ ) and were ethnically diverse (38% African American; 31% non-Hispanic Caucasian; 22% Hispanic; 9% multi-ethnic/other). Participating caregivers were predominately mothers (86%), although 9% were fathers, 4% were grandmothers, and the remaining were others. When children had more than one caregiver, one was identified to provide study data.

Youth were referred to the study by pediatric emergency departments, a child forensic sexual abuse program, and by police officers as part of the Child Development-Community Policing partnership (Marans, 2007). Youth were referred for a wide range of PTEs including CSA, physical abuse, domestic violence exposure, motor vehicle accidents (MVs), animal bites, and falls. Youth and caregivers were screened by phone using the PTSD Checklist (Weathers, Litz, Huska, & Keane,

1994) and were offered participation if one new child symptom was endorsed since the PTE. Children who were already receiving mental health treatment, who were developmentally disabled, who did not speak English, or who did not have an English-speaking caregiver able to participate were excluded. Of the 735 youth screened for eligibility, 243 were ineligible based on a lack of symptoms, 31 because they were already in treatment, 34 due to language barrier, and one due to significant developmental delay. Of the remaining 426 youth, 176 agreed to participate in the study. Of these, 112 attended the initial baseline appointment and provided written informed consent. There were no differences in child age, gender, or severity of symptoms for those who agreed to participate and those who either refused or did not attend.

## Measures

**Index PTE category.** Youth were exposed to the following index PTEs: CSA/disclosure of CSA ( $n = 21$ ), exposure to violence or gunshots ( $n = 21$ ), physical assault ( $n = 25$ ), threats of violence (e.g., mugging;  $n = 4$ ), home invasion ( $n = 1$ ), kidnapping ( $n = 1$ ), animal bites ( $n = 4$ ), accidental injuries/surgery ( $n = 8$ ), and MVAs ( $n = 26$ ). To preserve power, these PTEs were categorized into three groups that included (a) experiences of and/or the disclosure of CSA (19%); (b) intentionally perpetrated traumas other than sexual abuse (e.g., physical abuse, exposure to violence; 46%); and (c) unintentional PTEs (e.g., MVAs, other injuries; 34%). These groups were subsequently contrast-coded according to the approach recommended by Davis (2010). The resulting orthogonal contrast-codes were used as the measure of index PTE category in study analyses.

Referral sources provided the date of the PTE incident. The number of days between the PTE and the baseline interview was calculated and this variable was used as a covariate in study analyses.

**Trauma History Questionnaire.** The Trauma History Questionnaire (Berkowitz & Stover, 2005) was derived from items of the Traumatic Events Screening Inventory (Edwards, Rogers, Kantor, & Jasinski, 1997). Thirteen items were presented to youth and caregivers to assess children's history of traumatic event exposure and the intensity of their reactions. Because caregivers often underestimate the extent to which children are exposed to PTEs (Stover, Hahn, Im, & Berkowitz, 2009), a PTE was counted if either the child or caregiver endorsed the child's exposure. The sum of all trauma types endorsed by either child or caregiver was used as a measure of the child's trauma history (events were not counted twice). Internal consistency was adequate ( $\alpha = .70$ ).

**The Behavior Assessment System for Children, Second Edition-Self Report of Personality.** The Behavior Assessment System for Children, Second Edition-Self-Report of Personality (Reynolds & Kamphaus, 2004) is a 139-item self-

report measure that assesses children's behavior and adaptive functioning. *T* scores in a variety of domains are created based on age and gender norms for children aged 6 to 18 years. In the current study, scores from the Personal Adjustment Composite were used as a measure of children's preindex event functioning. This composite assessed children's perceptions of their self-reliance, self-esteem, and interpersonal relations. Youth were instructed to consider their typical functioning prior to the index event while answering these items. Personal Adjustment scores therefore reflect a retrospective measure of preindex event child functioning. Internal consistency was adequate ( $\alpha = .91$ ).

**The Parent Behavior Inventory-Child Version.** The Parent Behavior Inventory-Child Version (Lovejoy, Weis, O'Hare, & Rubin, 1999) contains 20 items which assess children's view of their caregivers' Hostile/Coercive parenting (e.g., "My mother/father loses their temper when I don't do something they ask me to do";  $\alpha = .70$ ) and their Supportive/Engaged parenting (e.g., "They listen to my feelings and try to understand them";  $\alpha = .89$ ). Using these two subscales, we examined whether positive and negative components of the caregiving context were associated with children's symptoms. Again, youth were told to consider their caregivers' typical behavior prior to the index event when answering these questions.

**Trauma Symptom Checklist for Children.** The Trauma Symptom Checklist for Children (Briere, 1996) contains 54 items which assess children's adjustment following exposure to a PTE. Children rated the frequency of posttraumatic stress, anger/aggression, and depressive symptoms using a 4-point Likert scale (0 = *never*; 3 = *almost all the time*). Because prior work has highlighted both trauma-specific (e.g., intrusive thoughts, avoidance, hyperarousal) and more general effects (e.g., fighting, behavioral difficulties) of trauma exposure (Briere & Spinazzola, 2005), the Anger ( $\alpha = .81$ ) and Depression ( $\alpha = .76$ ) clinical subscales were examined as dependent variables in addition to the Posttraumatic Stress (PTS) subscale ( $\alpha = .84$ ). *T* scores were derived based on age and gender norms for children aged 8 to 17 years. *T* scores for children aged 7 years ( $n = 8$ ) were estimated using norms for 8-year-olds (study findings remained consistent when 7-year-olds were dropped from analyses). Fourteen percent of children scored in the clinical range ( $t > 65$ ) for PTS, 2% for depression, and 1% for anger.

## Procedure

The Yale School of Medicine Institutional Review Board approved all aspects of this study. Current findings represent a secondary analysis of baseline data gathered for the RCT study. Baseline assessments were completed within approximately 1 month of a PTE ( $M = 15.8$  days,  $SD = 8.2$  days). Measures were administered separately to caregivers and children in interview format.

Table 1  
Descriptive Statistics for Study Variables

Variable	Range	<i>M</i>	<i>SD</i>
Anger/aggression symptoms <sup>a</sup>	34–72	45.57	8.34
Depression symptoms <sup>a</sup>	32–70	45.37	7.94
Posttraumatic stress symptoms <sup>a</sup>	36–82	52.37	10.73
Past trauma exposure <sup>b</sup>	0–13	6.11	2.59
Pre-event functioning <sup>a</sup>	32–64	52.30	7.97
Supportive parenting	2–40	27.12	8.68
Hostile parenting	2–28	12.95	6.03
Days since event	2–35	15.75	8.16

<sup>a</sup>*T* scores. <sup>b</sup>Past trauma exposure reflects the number of different types of trauma experienced.

## Results

Table 1 presents descriptive statistics for study variables. The distributions of continuous variables were approximated by the normal. Trauma categories were statistically equivalent in terms of child age, pre-event functioning, prior trauma exposure, parenting behaviors, and time since the event. However, groups differed significantly in terms of child gender. Specifically, the CSA group included significantly more girls than boys (17 out of 21).

Pearson product moment correlations for continuous study variables are presented in Table 2. Consistent with expectations, bivariate correlations indicated that more past trauma exposure, poorer preindex event functioning, and hostile parenting were significantly related to children's increased depression, anger/aggression, and PTS. Supportive parenting was not significantly related to children's symptoms and this variable was not included in subsequent models.

To examine the unique contribution of trauma category in the explanation of youth symptoms in the acute posttraumatic period, three separate hierarchical multiple regression models were examined. Dependent variables were youth

anger/aggression, depression, or PTS. Independent variables were entered in three steps for each model. At Step 1, child age and time since event were entered as covariates. At Step 2, pre-event contextual variables were entered (i.e., number of previous trauma types, preindex event functioning, and hostile parenting). At Step 3, contrast-coded trauma category variables were entered. Tests of collinearity among independent variables were acceptable for all three models (tolerance > .69, variance inflation factor < 1.45). Results are presented in Table 3. Trends are not interpreted due to the large number of analyses conducted.

In all three models, Step 1 accounted for a statistically significant amount of variance, with more time since the event significantly associated with decreased symptoms. Step 3 did not add a significant change in variance in any model.

In the model predicting anger/aggression, Step 2 accounted for a significant change in variance with more hostile parenting and more previous trauma exposure significantly associated with increased anger/aggression. In the model predicting depression, Step 2 accounted for a significant change in variance, with more hostile parenting associated with increased depression and better preindex event functioning associated with decreased depression. In the model predicting PTS, Step 2 did not account for a significant change in variance.

## Discussion

The current study sought to examine factors that place children at risk following exposure to a wide range of PTEs to assist professionals in screening and referring youth most in need of intervention. Contrary to predictions, the index trauma category was not associated with symptoms in the acute posttraumatic period after controlling for other relevant factors. Although assessment efforts for children in the acute posttraumatic period should include an exploration of characteristics of the PTE (e.g., injury, caregiver involvement in the event, physical and emotional proximity to the event), current findings suggest that an

Table 2  
Correlation Matrix for Continuous Study Variables

Variable	1	2	3	4	5	6	7	8
1. Anger/aggression	–							
2. Depression	.56***	–						
3. Posttraumatic stress	.60***	.54***	–					
4. Child age <sup>a</sup>	.04	–.01	.04	–				
5. Past trauma exposure	.49***	.27**	.25*	.29**	–			
6. Pre-event functioning	–.39***	–.52***	–.22*	.41***	–.29**	–		
7. Supportive parenting	–.06	–.07	.02	–.35***	–.27**	.35***	–	
8. Hostile parenting	.47***	.41***	.26**	.07	.37***	–.36***	–.13	–
9. Days since event	–.30**	–.20*	–.24*	.17	–.12	.10	–.14	–.17

<sup>a</sup>Bivariate correlations with child age were calculated using raw scores instead of *t* scores.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

Table 3  
 Hierarchical Regression Analyses Predicting Youth Symptoms in the Acute Posttraumatic Period

Variable	Anger <sup>a</sup>			Depression <sup>b</sup>			Posttraumatic stress symptoms <sup>c</sup>		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Step 1									
Days since potentially traumatic event	-.18*	.09	-.18*	-.17*	.08	-.17*	-.27*	.13	-.21*
Child age	-.23	.26	-.08	.39	.25	.14	.20	.40	.05
Step 2									
Pre-event functioning	-.17	.09	-.16	-.36***	.09	-.36***	-.08	.14	-.06
Past trauma exposure	1.14***	.30	.35***	-.09	.30	-.03	.50	.46	.12
Hostile parenting	.33**	.12	.24**	.34**	.12	.26**	.23	.19	.13
Step 3									
Childhood sexual abuse	1.36	1.84	.12	3.22	1.83	.29	4.52	2.85	.30
Intentional	.12	.94	.02	-2.20	.93	.12	-1.30	1.46	-.17

<sup>a</sup>Anger:  $R^2 = .10$  for Step 1 ( $p < .01$ );  $\Delta R^2 = .31$  for Step 2 ( $p < .001$ );  $\Delta R^2 = .02$  for Step 3 (*ns*). <sup>b</sup>Depression:  $R^2 = .06$  for Step 1 ( $p < .05$ );  $\Delta R^2 = .28$  for Step 2 ( $p < .001$ );  $\Delta R^2 = .04$  for Step 3 (*ns*). <sup>c</sup>Posttraumatic stress symptoms:  $R^2 = .07$  for Step 1 ( $p < .05$ );  $\Delta R^2 = .07$  for Step 2 (*ns*);  $\Delta R^2 = .03$  for Step 3 (*ns*).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

exclusive focus on the event is insufficient and that more comprehensive understanding of the child and family is required. These findings are consistent with prior research with children exposed to MVAs (Kassam-Adams et al., 2005). Mental health providers must consider children's broader context and pre-existing capacities in predicting their posttraumatic risk.

Specifically, this study's results indicate that children's trauma history, functioning, and experiences of hostile parenting prior to the most recent PTE are associated with greater symptomatology in the acute posttraumatic period. Therefore, to identify and refer children at the highest risk of maladjustment, current findings affirm the importance of evaluating children's functioning and experiences prior to an index event. A targeted assessment approach early after exposure to a PTE may identify youth at risk for elevated symptomatic responses.

Consistent with a growing body of evidence, children's prior trauma exposure was uniquely associated with their post-PTE adjustment. Specifically, children who had been exposed to more varying types of trauma prior to the current event showed higher levels of anger and aggression. These findings are consistent with the perspective that developmental outcomes are best predicted by cumulative risk factors, as opposed to single events (Shonkoff, 2010). Such a perspective is particularly relevant to the study of children exposed to PTEs given the prevalence of co-occurring trauma types within families (e.g., physical abuse, sexual abuse, neglect; Cohen, Mannarino, Murray, & Igelman, 2006) and that revictimization is a common experience for traumatized children (Kaltman et al., 2005). The Adverse Childhood Experiences (ACE) study indicated that individuals who had been "polyvictimized" or exposed to multiple types of adversity were at significantly higher risk for a variety of psychiatric, behavioral, and medical difficulties

as compared to those who had not experienced similar adverse experiences (Anda et al., 2006; Felitti et al., 1998). Other studies have demonstrated that individuals who were revictimized had higher rates of maladjustment across multiple domains of functioning (e.g., social, sexual, PTSD symptoms, depression) as compared to those who had experienced a single PTE (Kaltman et al., 2005). Current findings strengthen this past work and indicate that providers must attend to children's entire trauma history in determining their risk following PTE exposure.

Children with better preindex event functioning had significantly lower levels of depression following a PTE. These results are consistent with prior research implicating self-esteem, the capacity for closeness in relationships, and self-regulation skills in the relation between trauma exposure and subsequent adjustment among adults (Bradley, Schwartz, & Kaslow, 2005; Dimitrova et al., 2010; Walter, Horsey, Palmieri, & Hobfoll, 2010). Such findings go beyond prior work linking children's pre-existing psychopathology to elevated risk for maladjustment following PTE exposure (Pine & Cohen, 2002; Winston et al., 2003) and highlight the need for an assessment of children's pre-existing capacities and resources in the aftermath of a PTE.

Parenting style was also relevant to children's adjustment following a PTE. Youth who rated their caregivers as hostile had significantly higher levels of depression and anger/aggression. Although the relation with acute stress has not typically been examined, there is considerable evidence supporting the significant role played by family characteristics in children's posttrauma adjustment (Nugent, Ostrowski, Christopher, & Delahanty, 2007; Pine & Cohen, 2002). It is possible that children are unable or unwilling to access help from their caregivers

in the aftermath of trauma exposure when these caregivers frequently use physical punishment, threats, and/or coercion. Caregivers' emotional volatility and harshness may contribute to children's feelings of hopelessness, helplessness, and anger following a PTE.

The measure of supportive parenting was not linked with youth distress following a PTE. This finding may be due to the focus on the broad historical supportive behaviors of the caregivers. Future studies examining the role of caregiver support in the acute posttraumatic period should examine support specific to the event. It is also possible that the contributions of supportive parenting to child outcomes are more evident over time. Finally, the lack of observed association between youth symptoms and supportive parenting may be related to characteristics of the sample. Specifically, our sample is limited to youth who had caregivers willing to participate in treatment with them, suggesting at least a minimum of caregiver support. Eligibility was also limited to youth with at least one new symptom following the PTE. It is possible that youth with highly supportive parents did not develop any new symptoms following the index event and therefore did not participate in the current study. As a result, the full range of supportive and unsupportive caregiving may not be represented in the current study. Nonetheless, taken together, current findings support early intervention efforts that target hostile parenting, at least for symptomatic youth. For caregivers with a history of hostile responding, a reduction in these behaviors following a PTE may be critical to children's adjustment.

It should also be noted that only time since the event was significantly associated with PTS. These findings are consistent with the notion of the natural recovery of children's PTSD symptoms over time. Symptoms such as reexperiencing and avoidance appear to be less associated with pre-event functioning and more linked to the passage of time for the majority of children. In contrast, other worrisome symptoms (anger, aggression, and depression) may be more likely to develop and/or persist when children have been exposed to multiple types of trauma in the past, when their parenting context is negative, or when they lack self-esteem and other personal capacities and resources. This wider spectrum of symptoms could be overlooked by providers if the focus is solely on PTSD. In contrast, an assessment following a PTE that includes pre-event functioning, parenting style, and prior trauma exposure may help identify youth at greatest risk for a host of concerning psychological outcomes. Earlier identification and intervention for those youth could have major implications for their functioning and quality of life.

This study is one of the first to our knowledge to examine the relation of differing trauma categories with youth-reported symptoms in the acute posttraumatic period while considering other important contextual variables. Nonetheless, it has several limitations that must be considered. First, it is clear that not all potential factors associated with child symptomatology following a PTE were examined in the present study. Although current findings did not lend support for focusing on the nature of the

trauma when assessing children's risk, future studies should expand on this work by examining additional risk and protective factors for children exposed to trauma, including other potentially relevant characteristics of the PTE (e.g., severity of injury, duration of exposure), and sources of support outside of the family (e.g., peers, teachers).

Second, we focused on identifying factors associated with maladjustment during the acute posttraumatic period. Acute symptoms are a meaningful target of clinical intervention in their own right and prior longitudinal work has linked elevated symptoms in this period to persisting difficulties including PTSD (Pailler et al., 2007). Further, we have shown that alleviating youth distress through a family-based intervention delivered in the acute posttraumatic period can help prevent PTSD from developing (Berkowitz et al., 2011). Nonetheless, future longitudinal studies should examine whether the risk and protective factors identified in this study also predict children's functioning over time.

An additional limitation of this study stems from its use of a somewhat small sample of cross-sectional data and its reliance on retrospective reports of pre-event factors. A related concern is that children's "acute posttraumatic symptoms" might have been present prior to the index event. Although efforts were made during data collection to assist youth in considering their typical pre-event experiences and to anchor children's current symptom responses to the event (e.g., by asking "Is this problem new since X happened?"), it would have been preferable to obtain functioning, parenting, and trauma history measures prior to children's new traumatic exposure and to follow children over time. A longitudinal design of this type was not possible given that the current study employed secondary data analysis of a larger clinical trial. Given this limitation, we cannot rule out the possibility that the direction of effects is the opposite of that predicted here. More specifically, it is possible that current depressive symptoms led youth to rate their pre-event functioning and parenting context more negatively. It is also possible that angry children endorsed more extensive trauma histories and worse parenting prior to the index event. As a result, current findings should be considered preliminary and need replication in a larger sample of youth in a longitudinal design.

Finally, the cross-sectional nature of the data limited our ability to examine the mechanisms through which children's history of traumatic exposure, pre-event functioning, and parenting context influenced the development of new symptoms following a PTE. For example, it is possible that children use pre-existing coping skills to manage reactions following PTEs, but these resources may be less available when there have been multiple hits in the form of several types of prior trauma exposure. Future work should aim to elucidate these complex associations using mediational analysis of longitudinal data.

This study sheds light on factors related to children's adjustment following exposure to PTEs. An exclusive focus on the current traumatic experience is inadequate to determine children's risk. A fuller assessment of the child's preindex event functioning and consideration of the child's broader context will

provide a more complete picture of the child's posttraumatic adjustment and treatment needs. Although current findings need replication, they suggest that providers should consider children with trauma histories, poor preindex event functioning (e.g., school, peer, self-esteem difficulties), and a hostile parenting environment to be at higher risk for difficulties following exposure to a new PTE. Concerns likely go beyond PTSD symptoms and include a set of depressive, angry, and aggressive symptoms that can impact relationships and functioning, but may not meet criteria for a *DSM-IV* diagnosis. In line with calls for effective trauma assessment protocols (Ko et al., 2008), it is suggested that crisis mental health providers and others who are in the best position to consider the early intervention needs of youth exposed to a PTE assess these domains and refer high-risk children for further evaluation and treatment.

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