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Loss and the Experience of Emotional Distress in Childhood

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The objective of this study was to investigate loss and the experience of emotional distress through a series of three studies. In Study 1*, results indicated that when controlling for the total number of traumas experienced, children with loss traumas did not differ significantly from children with other types of traumas in terms of the level of PTSD symptoms reported and diurnal cortisol levels. In* Study 2*, results indicated that youth with loss traumas had significantly higher parent-reported internalizing and externalizing symptoms than control participants. In* Study 3*, we replicated and extended findings from* Study 1 *using an independent sample of non-clinic-referred youth. Findings are discussed in terms of how loss events may constitute a traumatic stressor in youth.*

The experience of loss in youth is common (Rheingold et al., 2004) and can be associated with emotional distress (Cohen & Mannarino, 2004) such as symptoms associated with posttraumatic stress disorder (PTSD; American Psychiatric Association, 1994). Saldinger, Cain, and Porterfield (2003) examined qualitative data from 58 school-aged children of parents with terminal illnesses and concluded that such experiences may constitute a traumatic experience. Evidence to support loss as a highly stressful event can also be found in research investigating childhood traumatic grief (CTG)

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(Brown & Goodman, 2005; Brown, Pearlman, Goodman, 2004; Cohen, Goodman, Brown, & Mannarino, 2004; Crenshaw, 2005). Cohen and Mannarino (2004) define CTG as "a condition in which a child or adolescent has lost a loved one in circumstances that are objectively or subjectively traumatic and in which trauma symptoms impinge on the child's ability to negotiate the normal grieving process" (p. 819). Research indicates that youth with PTSD symptoms who have suffered the loss of a significant other also suffer CTG symptoms (Brown & Goodman, 2005). Disasters that lead to perceived and actual losses are also associated with severe emotional distress (Lonigan, Shannon, Taylor, Finch, & Sallee, 1994; Papageorgiou et al., 2000; Shannon, Lonigan, Finch, & Taylor, 1994). The research on youth who have experienced natural disasters suggests that the experience of loss of a stable home environment, parents, and family is associated with an increased likelihood of developing PTSD (e.g., Lonigan et al., 1994).

A possible explanation for why youth experience loss events as traumatic can be found in normative development. Developmental theory and research suggests that children between the ages of 6 and 9 begin to see themselves as separate from their caregivers and with this realization also begin to recognize that they are dependent upon their caregivers. Similarly, youth aged 10 and 13 typically begin to comprehend the concept of mortality. Such realizations may give rise to increasing concern about death as well as loss of their caregivers (Weems & Costa, 2005; Westenberg, Sieblink, & Treffer, 2001). The expression of fear of death at specific developmental stages suggests that youth around the age of 10 have begun to realize the implications of personal mortality as well as the mortality of others.

If a child experiences the loss of a caregiver for reasons beyond the child's control (caregiver is incarcerated, the child is placed in foster care, or the caregiver dies) during certain developmental periods, the child's perception of the loss event might be perceived as threatening the physical integrity of the child (e.g., Criterion A1 for PTSD in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed., *DSM-IV*; American Psychiatric Association [APA], 1994). The *DSM-IV* characterizes a traumatic event as an experience that involves threatened death or severe injury to an individual, or witnessing an individual experience threatened death or severe injury (Criterion A1), and specifies that the individual must respond to that event with intense fear, helplessness, or horror (Criterion A2). In other words, experiencing loss of a caregiver during a period when the child saliently realizes dependence on the caregiver might lead the child to question his or her own survival and experience that realization with helplessness and horror. For example, after the real or perceived loss of their caregiver, children may believe that they no longer have the person they once depended upon to care for them. Without this person to care for them, and realizing an inability to care for themselves, children may fear a threat to their lives (i.e., loss of the caregiver might be perceived by a child as the threat of death).

Although there is evidence pointing to loss as a stressful event associated with emotional distress, results have not always been consistent. For example, Rheingold et al. (2004) examined the linkage between loss and emotional distress in a large sample of 4,023 youth. Results indicated that the death of a family member was not associated with mental health or substance use problems. In addition to problems inherent in assessing PTSD in youth (Ronen, 2002), identifying methodologically and statistically appropriate comparison groups with which to compare the emotional symptoms of those who have experienced loss is difficult. For example, comparison of a group of youth who have experienced loss with a matched "nontraumatized" group on PTSD symptoms is problematic because, by definition, the comparison group has no trauma and thus no posttrauma symptoms. We reasoned that a valid comparison group would be children with other traumas. Specifically, comparison should involve showing that similar levels of PTSD symptoms are found among those with loss experiences as among those with other experiences recognized as traumatic stressors. This comparison should be coupled with a comparison of those with loss experiences on non-PTSD but related emotional distress symptoms (such as those on the Child Behavior Checklist) using a group of nontraumatized youth. Consistent with the recommendations of Ronen (2002), we also reasoned that assessments should be multimethod so as to capture the perspective of the child and the caregiver but also tap physiological responses. We addressed this by employing interviews, parent reports, self-reports, and a physiological measure. Thus, in this paper we sought to evaluate the linkage between emotional distress and loss events in a series of three studies utilizing more than one method.

We defined youth who had experienced a loss event as those who reported a permanent separation from or death of significant others. According to the developmental reasons stated above, both types of events are likely to have a similar psychological impact for youth. For example, youth experiencing permanent separation from a significant other may not have a true sense of when the separation will end, and therefore it may seem just as permanent as the loss of that significant other as a result of death.

In *Study 1*, PTSD symptoms were compared between two groups: those who only experienced loss events and those who experienced other types of traumatic events. In addition to PTSD symptoms, we also examined diurnal salivary cortisol, as research suggests that traumatized youth with PTSD symptoms have evidenced elevated levels of salivary cortisol relative to nontraumatized youth (Carrion, Weems, Ray, Glassor et al., 2002; DeBellis et al., 1999). We hypothesized that youth experiencing loss traumas would show no significant differences on PTSD symptoms and salivary cortisol levels from those who had experienced other types of traumatic events.

In *Study 2*, the Child Behavior Checklist (CBCL) subscale scores of youth who had experienced loss traumas were compared to those from an age-and

gender-matched sample of nontraumatized youth (controls). Research has indicated that traumatized youth with PTSD score higher on the Internalizing and Aggressive Behaviors subscales of the CBCL when compared with nontraumatized youth (Saigh, Yasik, Oberfield, Halamandaris, & McHugh, 2002). Thus, it was hypothesized that youth experiencing a loss trauma would show elevated scores on the Internalizing and Externalizing scales of the CBCL when compared to controls.

In *Study 3*, our aim was to replicate findings from *Study 1* in a sample of non-clinic-referred children. The PTSD symptom levels and other anxiety disorder symptoms of children who only experienced loss events were compared to youth who only reported exposure to community violence. This comparison sample was chosen because previous research indicates that children who have experienced community violence evidence elevated levels of PTSD symptoms (Berton & Stabb, 1996; Seedat, Njeng, Vythilingum, & Stein, 2004). Again, youth who had experienced a loss event were defined as those who reported a permanent separation from or death of a significant other. Events were classified as community violence if youth reported being attacked or shot at in their communities or witnessing other individuals being attacked or shot at in their communities. It was hypothesized that children reporting loss events would demonstrate no significant differences in terms of posttraumatic symptom levels and interference ratings compared to children who reported experiencing community violence.

STUDY 1

Method

PARTICIPANTS

All of the children in this sample were recruited from local mental health clinics and social service departments and were referred to the project because of exposure to interpersonal trauma. Case workers and therapists were the referring sources. Children recruited had at least one episode of trauma; (2) the traumatic episode for which they were referred had occurred 6 months prior to referral; and they had no known history of neurological disorders or alcohol or drug abuse/dependence.

There were 60 children referred to this study. Consent was obtained from the participating counties' courts for children in foster placement ($n = 27$), and in several cases there was prior protective services involvement ($n = 35$). A procedure was put into place for reporting cases of ongoing maltreatment. No cases were identified. Regardless of prior consent, all children and their caregivers were presented with a written institutional review board (IRB) approved informed consent at a scheduled visit. Child assent was required for participation in this study. Participants were given

a copy of the consent. All children referred to this study underwent screening with the PTSD Reaction Index and were assessed through the Clinician-Administered PTSD Scale for Children and Adolescents (CAPS-CA). One child was not able to complete the CAPS-CA. This child was not included in the analysis. The final sample was composed of 34 boys and 25 girls. These children were between the ages of 7 and 14. The mean age of the children in this sample was 10.6 years.

Over half of the children (55%) had experienced multiple traumatic events. Traumatic events included separation and loss (55%), witnessing violence (40%), physical abuse (37%), sexual abuse (20%), physical neglect (12%), and emotional abuse (7%). Regarding family income, 48.4% reported incomes between $0 and $31,000, 15% reported incomes between $31,000 and $76,000, and 14.9% of the families reported incomes over $76,000. A portion of the sample (21.7%) did not report income data. This was due to children being in foster care, residential treatment, or other nontraditional rearing environments. With respect to caregiver education level, caregivers reported a partial high school education (3.3%), a high school education (21.7%), partial college (18.3%), college (11.7%), or a graduate school education (16.7%). For a portion of the sample (28.3%), caregiver education level was not available. This was also due to the children being in foster care, residential treatment, or other nontraditional rearing environments. In terms of ethnicity, the sample was composed of Euro-Americans ($n = 25$), African Americans ($n = 26$), Hispanics ($n = 5$), Asians ($n = 2$), and "other" ($n = 1$). Additional details can be found in Carrión, Weems, Ray, and Reiss (2002).

Measures and procedures

All youths and their legal guardians were presented an informed consent form to read and agreed to participate. An in-depth clinical evaluation was conducted on all referred children with PTSD Reaction Index scores of 12 or above. Evaluation instruments included the following.

The *Child Posttraumatic Stress Disorder Reaction Index* is a 20-item self-report instrument used to assess PTSD symptoms after exposure to violence (Pynoos et al., 1987). It is a widely used instrument and has been shown to be a valid and reliable measure of PTSD symptoms in pediatric samples (Nader, Pynoos, Fairbanks, & Frederick, 1990). This questionnaire was administered as a screening instrument for inclusion in the study.

The *Clinician-Administered PTSD Scale for Children and Adolescents* was used to assess PTSD symptoms (Nader et al., 1996). The CAPS-CA is a developmentally sensitive counterpart to the CAPS for adults (Blake, Weathers, Nagy et al., 1990; Blake, Weathers, Nagy, & Kaloupeck, 1995) and assesses exposure to trauma, each of the 17 symptoms for PTSD in the *DSM-IV*, and the time frames associated with reported trauma. Like the CAPS,

the CAPS-CA is a structured clinical interview that consists of standardized prompt questions, supplementary follow-up (probe) questions, and behaviorally anchored 5-point rating scales corresponding to the frequency and intensity of each symptom assessed. The CAPS-CA assesses all *DSM-IV* criteria for PTSD and contains features to increase the utility of this instrument with children using iconic representations of the rating scales, opportunities to practice with the format prior to questions, and a standard procedure for identification of the critical 1-month timeframe for current symptoms an individual reports experiencing. The CAPS-CA has good internal consistency estimates for the ratings and has shown concurrent validity with the Child PTSD Checklist (Nader et al., 1996). A certified child psychiatrist Victor G. Carrión) who was trained on the administration of instrument conducted all CAPS-CA interviews. Moreover, an intraclass correlation coefficient of .97 was established on a subsample of the interviews in the sample with one of the originators of the CAPS-CA (Elana Newman) who rated videotaped recordings of 10 interviews.

Data on *salivary cortisol* were obtained from the participants during home measurements collected four times a day (prebreakfast, prelunch, predinner, and prebed) over the course of 3 days, producing 12 samples. To maximize appropriate collection, detailed instructions and an illustration were provided to parents and children regarding the collection of saliva samples. A handout with a checklist indicating all 12 required collection times was provided for collection monitoring. Each of the samples was collected by having the participant place a cotton swab in his or her mouth for 1 minute. As recommended for increased reliability (see Gunnar, 2001), an aggregate score from the 3 days (i.e., the mean score across the assessment days) was created for each time period so that each participant had one prebreakfast, prelunch, predinner, and prebed sample. A comprehensive description of the details of cortisol collection and reliability for this data set can be found in (Carrión, Weems, Ray, Glasser et al., 2002).

Results and Discussion

Table 1 shows the demographic information for the loss traumas group and the other traumas group. As can be seen in Table 1, there were no significant differences in age, gender, ethnicity, or income between the two groups. Table 2 shows the means of scores on Clusters B, C, and D, and total scores on the CAPS-CA for the loss trauma group ($n = 14$) and for the other traumas group ($n = 45$). The means indicate similar symptom levels across both groups (see Table 2). However, to further investigate if differences exist between the two groups, a series of one-way analyses of covariance (ANCOVAs), with trauma group as the independent variable (loss traumas vs. other traumas), were performed with the CAPS-CA total scores and subscales (B, C,

TABLE 1 Demographic Information for *Study 1*.

	Loss traumas	Other traumas	t/χ^2	p
Mean age (*SD*)	10.95 (1.88)	10.53 (1.92)	−.72	.47
Gender (%)			1.64	.20
Girls	57.10	37.80		
Boys	42.90	62.20		
Ethnicity (%)			1.12	.89
Caucasian	42.90	42.20		
African American	50.00	42.20		
Hispanic	7.10	8.90		
Asian	0	4.40		
Other	0	2.20		
Income (%)			13.2	.21
<$21,000	61.60	30.30		
$21,000–40,000	23.10	27.20		
>$40,000	14.30	42.40		

and D) as the dependent variables separately. The number of total traumas was used as the covariant in all analyses so that the type of trauma experienced (loss traumas vs. other traumas) would be a likely explanation for any between-groups differences. In other words, controlling for other traumatic experiences decreases the likelihood that results would be confounded by other traumas.

Controlling for total traumas, there was no significant difference between trauma groups on Cluster B scores for the CAPS-CA, $F(1, 56) = .03$, $p = .88$, Cluster C scores for the CAPS-CA, $F(1, 56) = .003$, $p = .96$, Cluster D scores for the CAPS-CA, $F(1, 56) = 3.24$, $p = .08$, and total scores for the CAPS-CA, $F(1, 56) = .44$, $p = .51$. Since we hypothesized no differences, a confidence interval (CI) approach was also employed, specifically, we calculated traditional 95% CIs and 80% CIs for the group mean

TABLE 2 Comparison of Group Symptoms for *Study 1*.

	Loss traumas		Other traumas					Traditional 95% CI		80% CI	
Measure	*M*	*SD*	*M*	*SD*	*F*	*p*	eta^2				
CAPS-CA											
B	9.85	2.35	10.29	1.19	.02	.88	<.01	−5.15	6.04	−3.18	4.06
C	16.01	3.13	15.82	1.59	<.01	.96	<.01	−7.64	7.26	−5.02	4.63
D	7.73	2.21	12.46	1.13	3.24	.08	.06	−0.53	9.98	1.32	8.13
Total	33.60	6.32	38.57	3.22	.44	.51	.01	−10.06	20.01	−4.76	14.71
Cortisol level											
Prebreakfast	.40	.05	.43	.03	.23	.64	.01	−.09	.15	−.05	.11
Prelunch	.17	.04	.23	.02	1.50	.23	.03	−.04	.16	−.01	.12
Predinner	.16	.03	.16	.02	<.01	.95	<.01	−.07	.08	−.05	.50
Prebed	.18	.04	.10	.02	2.84	.10	.06	−.18	.02	−.14	−.02

Note. B-reexperiencing symptoms; C-avoidance and numbing; D-hyperarousal.

differences. The 80% CI loosens the threshold and in this case strengthens conclusions about no difference if the CI continues to include zero.

Cortisol levels for each group are also reported in Table 2. The means of cortisol levels measured during four time points (prebreakfast, prelunch, predinner, and prebed) indicate similar salivary cortisol across groups (see Table 2). To further investigate the differences in cortisol levels between the two groups, a series of one-way ANCOVAs, with trauma group as the independent variable (loss traumas vs. other traumas), were performed on each cortisol level (prebreakfast, prelunch, predinner, and prebed) separately. Cortisol levels between trauma groups were not significantly different at prebreakfast, $F(1, 47) = .23$, $p = .64$, prelunch, $F(1, 47) = 1.50$, $p = .23$, predinner, $F(1, 47) = .003$, $p = .95$, or prebed, $F(1, 47) = 2.84$, $p = .10$.

STUDY 2

The scores on the CBCL from a subsample of participants (i.e., all those participants whose caregivers completed the CBCL) in *Study 1* with loss traumas ($n = 10$) were compared with a sample of participants ($n = 20$) without a history of traumatic events who were matched on age and gender.

Method

PARTICIPANTS

The loss participants from *Study 1* whose parents/guardians completed the CBCL were compared to a control group matched on age and gender. The subsample of participants from *Study 1* was composed of 5 girls and 5 boys aged 8 to 14 ($n = 10$). The mean age of children from the *Study 1* subsample was 10.81.

Control participants were part of a study on emotions in normal youth. Families with children between the ages of 7 and 17 were recruited for this study through adult students enrolled in courses at the University of New Orleans (UNO) as well as through area schools, media outreach, and the parent education center at UNO. Interested families were informed that we were conducting a study of youth behaviors, emotions, and anxiety and that they could receive a free screening for anxiety-related problems. Participants received a small monetary reward as compensation for participating in the study. Children were excluded if parents indicated that the child had a history of one or more of the following diagnoses: all pervasive developmental disorders, mental retardation, selective mutism, organic mental disorders, schizophrenia, and other psychotic disorders (or were are at risk for harm to self or others). Additional details can be found in Weems, Costa, Watts, Taylor, and Cannon (2007).

The control group was composed of 10 girls and 10 boys aged 8 to 14 with no history of trauma ($n = 20$). The mean age of children in the control group was 10.95. Two control participants were matched to each participant from *Study 1* who had experienced only a loss trauma. Control participants were the same age (within 1 year) and gender as the *Study 1* participant with whom they were matched.

Measures and procedures

The CBCL is a 113-item rating scale used to assess behavioral and emotional problems of children and adolescents. The CBCL records parent reports of child symptoms. In addition to providing a Total Problems score, it includes two broad-band scales (Internalizing and Externalizing). The Internalizing scale is composed of syndrome scales referring to withdrawn, somatic, or anxious/depressed behaviors exhibited by the child. The Externalizing scale is composed of syndrome subscales referring to delinquent or aggressive behaviors exhibited by the child. The CBCL also consists of Attention, Thought, Social, and Other Problems subscales. The CBCL has good reliability and has been extensively validated (Achenbach, 1991). For example, the CBCL scaled scores and clinical cutpoints have been found to discriminate between clinic-referred and non-referred children, and normative data are available (Achenbach, 1991).

Data for the loss group were collected as discussed in *Study 1*. Data for the comparison sample were collected via a UNO IRB approved study of youth emotions and behaviors. Informed consent was obtained from the parent and informed assent was obtained from the child before any of the assessment procedures took place. The assessments were completed in a quiet clinic. At the conclusion of the study, all participants were debriefed and given a small monetary reward.

Results and Discussion

Independent-samples *t* tests were conducted to evaluate the hypothesis that children with loss traumas evidence elevated CBCL scores when compared to their nontraumatized contemporaries. CBCL scores are presented in Table 3. As shown by Table 3, the tests indicate that children with loss traumas evidence significantly higher Total Problem scores, Internalizing, Externalizing, Somatic Complaints, Thought Problems, Delinquent Behaviors, and Aggressive Behaviors subscale scores than the nontraumatized control participants. Tests indicated no significant differences between groups on the Withdrawn, Anxious/Depressed, Social Problems, or Attention Problems subscales (see Table 3). Results were thus generally consistent with the hypothesis that youth who have experienced loss have elevated emotional and behavioral problems compared to nontraumatized youth.

TABLE 3 Normative Comparisons for *Study 2*.

CBCL score	Loss traumas		Normative comparisons				Traditional 95% C.I	
	M	*SD*	*M*	*SD*	*t*	*p*		
Total	59.90	13.39	45.80	7.67	−3.69	<.01	−21.93	−6.27
Internalizing	58.30	11.85	47.45	11.10	−2.47	.02	−19.86	−1.84
Externalizing	58.30	13.96	48.40	9.84	−2.17	.04	−18.49	−.51
Withdrawn	60.40	12.10	53.95	7.56	−1.80	.08	−13.80	−.90
Somatic	59.20	7.53	53.60	5.05	−2.43	.02	−10.33	−.87
Anxious/ depressed	58.00	10.99	52.95	5.82	−1.66	.11	−11.28	1.18
Social problems	58.40	9.70	53.45	5.26	−1.83	.08	−10.50	.60
Thought problems	60.90	9.72	53.50	6.12	−2.56	.02	−13.33	−1.48
Attention problems	62.90	10.71	56.15	8.64	−1.86	.07	−14.17	.67
Delinquent behavior	60.80	10.95	53.75	7.69	−2.05	.05	−14.09	− .01
Aggressive behavior	60.20	11.17	52.95	5.53	−2.40	.02	−13.44,	−1.06

STUDY 3

Method

PARTICIPANTS

Children reporting loss traumas were compared with children reporting the experience of community violence and were compared on PTSD symptom levels. Participants were recruited in the same manner as the nonclinical sample in *Study 2*. Families with children between the ages of 7 and 17 were recruited for this study through a adult students enrolled in courses at UNO as well as through area schools, media outreach, and the parent education center at UNO. Interested families were informed that we were conducting a study of youth behaviors, emotions, and anxiety and that they could receive a free screening for anxiety related problems. Participants received a small monetary reward as compensation for participating. Children were excluded if parents indicated that the child had a history of one or more of the following diagnoses; all pervasive developmental disorders, mental retardation, selective mutism, organic mental disorders, schizophrenia, and other psychotic disorders (or were are at risk for harm to self or others). Procedures for *Study 3* are identical to that of *Study 2*.

Participants in *Study 3* reported either a loss trauma ($n = 10$) or a witnessing violence trauma ($n = 10$). The loss group was composed of 6 boys and 4 girls with a mean age of 14.56. The witnessing violence group was composed of

6 boys and 4 girls with a mean age of 11.50. With respect to caregiver education level, caregivers reported a partial high school education (5.3%), a high school education (10.5%), partial college (26.3%), or college (57.9%).

MEASURES

The *Child PTSD Checklist* was used to screen the nonreferred group for traumas and PTSD symptoms (Amaya-Jackson, McCarthy, Newman, & Cherney, 1995). The questionnaire includes a section on which up to three self-reported traumas can be reported. Questions are based on symptoms from each of the three PTSD symptom clusters (B, C, and D) as specified in the *DSM-IV*. The rating scale for the experience of symptoms is as follows: "not at all" (0), "some of the time" (1), "most of the time" (2), or "all of the time" (3). Evidence of internal consistency and construct validity has been found (Weems, Piña et al., 2007). Alpha coefficients have been reported ranging from .72−.91 (Amaya-Jackson et al., 1995). Total PTSD symptom scores and symptom scores for each of the symptom clusters were computed by summing children's rating scale responses. Two independent coders were provided with instructions for categorizing children's self-reported traumas. If children reported being separated from their primary caregiver/relative or reported an event during which they were unsure if that primary caregiver/relative would return (regardless of time period) due to loss, the coders were instructed to categorize that event as a loss trauma (Cohen's kappa = .92, with 98% agreement between coders). If children reported having or witnessing a knife or other weapon being pulled on them or someone else outside of the home or being robbed, threatened, or otherwise physically hurt/assaulted by an individual in their community (i.e., at school or in their neighborhood), the coders were instructed to categorize

TABLE 4 Demographic Information for *Study 3*.

	Loss traumas	Witnessing violence traumas	t/χ^2	p
Mean age (*SD*)	14.56 (1.55)	11.50 (2.64)	−2.91	.01
Gender (%)			.80	.37
Girls	60.00	40.00		
Boys	40.00	60.00		
Ethnicity (%)			2.10	.55
Caucasian	33.30	40.00		
African American	55.60	50.00		
Asian	11.10	0		
Other	0	10.00		
Income (%)			6.86	.23
<$21,000	50.00	60.00		
$21,000−41,000	16.70	0		
>$ 41,000	33.30	40.00		

TABLE 5 Comparison of Group Symptoms for *Study 3*.

	Loss traumas		Witnessing violence traumas							
Child PTSD checklist	*M*	*SD*	*M*	*SD*	*t*	*p*	Traditional 95% CI		80% CI	
Total	21.48	6.02	17.76	7.50	− 1.22	.24	− 10.12	2.67	− 7.76	.33
B	8.10	2.77	5.56	3.50	− 1.80	.09	− 5.50	0.42	− 4.42	− .66
C	6.78	3.56	5.20	1.69	− 1.27	.22	− 4.20	1.03	− 3.24	.07
D	5.59	2.83	6.00	2.75	.33	.75	− 2.21	3.03	− 1.25	2.07

Note. B-reexperiencing symptoms; C-avoidance and numbing; D-hyperarousal.

that event as witnessing community violence (Cohen's kappa = .96, with 99% agreement between coders).

Results and Discussion

Table 4 shows the demographic information for the loss group and the witnessing community violence group. As can be seen, there was a significant difference in age but there were no significant differences in gender, ethnicity, or income between the two groups. Independent samples *t*-tests were conducted to evaluate the hypothesis that children reporting loss traumas evidence similar PTSD symptom levels, symptoms of other anxiety disorders, and interference ratings when compared to children who report witnessing violence in their community. ANCOVAs controlling for age produced the same results as the *t*-tests. Table 5 shows the means of scores on Clusters B, C, D, and total scores on the Child PTSD Checklist for the loss trauma group and for the witnessing community violence group. As shown in Table 5, the tests indicate no significant differences between groups on PTSD symptom levels.

GENERAL DISCUSSION

This study adds to the growing literature on the relation between loss events and emotional distress symptoms in youth. Findings from this study indicated that children who have experienced loss events evidence PTSD symptoms and cortisol levels that are very similar to children who have experienced events (e.g., abuse, witnessing violence) that are recognized as traumatic in youth. When controlling for total number of traumas, there were no differences between groups (e.g., loss traumas vs. other traumas) in terms of CAPS-CA scores or cortisol levels. Examination of the confidence limits for the group differences also point toward a similar level of symptoms, except for Cluster D symptoms (lower) and prebed cortisol (higher) in study 1 and cluster B symptoms in study 3. Because of the 80% CI, these differences

cannot be considered significantly different, however, they cannot be considered functionally equivalent either.

This study adds to the previous research on childhood traumas that have focused upon child maltreatment, exposure to violence, or natural disasters as traumatic events in youth (Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Berton & Stabb, 1996; Lonigan et al., 1994) by pointing to loss as a potential traumatic event. A caveat to this point is the importance of differentiating loss as more than a "stressful" life event in youth but as a Criterion A1 experience. Given the implications of loss of a significant other, in conjunction with our findings, research conducted by Saldinger et al. (2003) regarding parental loss, and support for the phenomena of CTG, it is reasonable to conclude that loss events are traumatic in youth. This study also adds to past research regarding youth surviving natural disasters or war that has investigated separation and loss as a factor that might exacerbate posttraumatic stress by testing if loss events can be considered as traumatic experiences. Findings from our sample suggest that loss experiences might constitute a Criterion A1 stressor for pediatric PTSD and may help to inform future notation in the *DSM-IV* regarding developmental characteristics of A1 events.

Potential reasons for loss of caregivers as traumatic stressors in youth might stem from the beliefs that children hold about the implications of these loss events. Youth may fear for their personal safety upon the loss of their caregiver, as they no longer have the person they once relied upon to care for them and are too young to take care of themselves.

Further support for the potential emotional and behavioral impact of loss was found in that the parents of children with loss traumas reported higher levels of problems on the Internalizing and Externalizing scales and Somatic Complaints, Thought Problems, and Delinquent and Aggressive behavior subscales when compared to age-and gender-matched controls. Such findings are consistent with previous research suggesting that traumatized children evidence elevated CBCL scores when compared to nontraumatized children (Saigh et al., 2002). Though Saigh et al. (2002) found that traumatized children also scored higher than controls on the Anxious/Depressed, Social Problems, and Attention Problems subscales of the CBCL and we did not, our efforts to replicate their findings with youth who experienced loss were successful overall. The differences in the types of experiences or differences in the ages of children sampled for our study (7–14 years) and those sampled in Saigh et al.'s (2002) study (7–18 years) may account for this difference.

Although findings were consistent with hypotheses and across diverse methodology (child clinical interviews, neuroendocrine evaluation, parent report of behavioral problems), they are limited by relatively small samples of children and power. While our findings were consistent across studies and groups of participants, replication of these results with a larger sample

of children who have experienced only loss events versus children with other single incident stressors might improve confidence in the conclusion that loss experiences represent a potential traumatic stressor in youth.

In sum, results from this study further elucidate events potentially traumatic in youth, suggest possible developmental notations with respect to Criterion A1 for pediatric PTSD, and point toward several future research directions. The findings fall in line with research pointing toward the need for developmental modification of the *DSM-IV* criteria for PTSD (Scheeringa, Zeanah, Drell, & Larrieu, 1995). While findings from the current study do not indicate a need to formulate an alternative criteria for traumatic stressors in youth, they do help to suggest developmental considerations in assessing the types of events youth perceive as traumatic.

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