eReview

Center for Excellence in
CHILDREN'S MENTAL HEALTH

The *eReview* summarizes children's mental health research and implications for practice and policy

Child Welfare Series • March 2010

# What is Trauma and Why is it Important?

*This is the first issue in a series focusing on trauma and child welfare systems. This issue defines trauma and describes its significance. Successive issues will highlight childhood trauma in the context of culture and identify ways in which child welfare systems can best respond to children.*

## Research Summary

***Cari Michaels, MPH***
***Center for Excellence in Children's Mental Health***

Child welfare systems serve a population of children who have experienced trauma, typically multiple traumas. While one traumatic event may lead to involvement with child welfare, there may be many prior traumatic experiences in the child's life. These may be unknown to the child welfare worker but can have significant impact on the child throughout development. The child's experience within the child welfare system, sometimes with multiple placements, caregivers and peers, may also add to their experience of trauma. The need for a clear understanding of trauma and its short and long-term effects on children is critical. This *eReview* issue begins the exploration of definitions of trauma, short- and long-term consequences of childhood trauma, and the need for child welfare systems to respond appropriately and effectively to the children and families they serve.

A person experiences *trauma* when he or she is subjected to or witnesses physical or psychological injury or threat of injury. Traumatic events are defined not only by the nature of the event but also the person's perception of it as overwhelming. Traumatic events can be experienced as an individual, as in cases of abuse or neglect, assault or serious medical illness, or as part of a group, such as community violence, war, or a natural disaster. A person need not experience a traumatic event directly in order to feel its effects. Events that threaten an individual's safety, such as witnessing domestic violence, can also cause significant trauma to the exposed individual.

Researchers have documented traumatic experiences and the results of those experiences on individuals and populations for many years. Early definitions of traumatic stress, or 'psychic trauma', refer to a disruption in the individual's expectations about the environment,[1] and a resulting state of emotional discomfort or stress.[2] The effects of trauma have been studied among war veterans, survivors of childhood abuse, individuals exposed to terrorist acts, child witnesses to domestic violence, survivors of natural or man-made disasters, children exposed to school violence and others. Early literature about trauma typically focused on a single event, such as a natural disaster or violent act. As awareness of trauma and its effects has grown, researchers and providers have learned that individuals most affected by traumatic events are those who have been exposed to multiple and/or severe traumatic experiences. According to a comprehensive literature review, most individuals reporting a trauma history have experienced more than one traumatic event.[3] The events of *cumulative trauma* may be similar in nature or quite different, but they happen repeatedly and can result in greater damage. Trauma can also be experienced by an entire population, and *historical trauma* can be felt over generations of people within that group.[4-5]

Some researchers examine what is referred to as *complex trauma*, defined as "a type of trauma that occurs repeatedly and cumulatively, usually over a period of time and within specific relationships and contexts."[6]

UNIVERSITY OF MINNESOTA
Driven to Discover℠

It is the nature of the relationship that can make complex trauma particularly damaging. An example of complex trauma is child abuse. Children exposed to trauma typically look to a caregiver to understand and heal, but if this is the source of trauma then the most critical relationship for creating trust, building attachment and providing stable growth is disrupted. Complex trauma can also include situations of domestic violence, war, and displacement. Because the response to complex trauma can be particularly detrimental, researchers examine its specific effects on children. The most comprehensive such review identifies symptoms observed within seven areas of development — attachment, biology, affect regulation, dissociation, behavioral control, cognition, and self-concept.[7]

Children can be particularly vulnerable to the effects of trauma. Because trauma can interrupt developmental processes, a child exposed to it can be more vulnerable to experiencing long-term effects. *Traumatic stress* is an internal response to traumatic events that occurs "when exposure to traumatic events overwhelms the child's ability to cope."[8] Critical growth associated with attachment, emotional self-regulation, and self-esteem occurs during infancy and early childhood. Very young children typically form strong attachments with adults who are familiar, and to whom they turn in times of stress. These relationships form a basis for developmental competencies such as distress tolerance, curiosity, communication, and a sense of oneself and one's relationship with others.[7] Early childhood is also the time when children are biologically most prepared to use sensory and perceptual systems to take in outside stimuli and make sense of the world around them.[9] The relationship between physiological readiness and early experience can be summarized in this way —

> *"…the child is equipped with some biologically based predispositions to filter and attend to emotional signals, such as facial expressions, verbal [rhythm or intonation], and body position. What those signals come to be associated with and what they will later represent for the child will be a function of the child's experiences in the world."*[10]

If early experiences induce fear and confusion in the child, typical development is disrupted. Some children who experience traumatic stress may develop *Post-traumatic Stress Disorder,* or *PTSD,* defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) as the development of specific symptoms following exposure to trauma, including fear, helplessness, or horror, re-experiencing the traumatic event (through dreams or thoughts), avoiding or having trouble remembering places or events that are reminders of the trauma, and having symptoms of anxiety or increased arousal that were not present before (including hypervigilance, exaggerated startle response, anger or difficulty concentrating)[11]

For some children, experiencing trauma in childhood can also be particularly damaging. Research studies have examined differences between traumatized children and their peers in the very early years, and later as these children reach adulthood. Not all children exposed to trauma will experience symptoms as a result, but traumatic stress can have an effect on the way the body functions internally, the manner in which children interpret the world around them, the behaviors and interactions of these children, and short- and long-term health status. One such example is that children exposed to repetitive trauma have been shown to have differing levels of cortisol, a critical stress-sensitive hormone.[12] Cortisol is necessary for healthy functioning but damaging when levels are too high or too low. Low levels can lead to asthma, allergies, and immune problems. High levels can lead to muscle damage, hypertension, and arterial disease. Children as young as six months have been shown to experience significant changes in cortisol due to stress.[13] Both low and high levels are associated with neurological damage. Cortisol levels are generally higher during morning hours and lower in the afternoon. Bevans and colleagues demonstrated that children exposed to repetitive trauma, particularly recent trauma, exhibit daily cortisol levels that are higher than average in the morning and lower than average in the afternoon.[12] Researchers have also examined cortisol levels in foster children, who often have experienced traumatic events early in life. Children who enter foster care in infancy have been shown to have atypical patterns of daily cortisol.[14] One study on

international adoptees showed that early maltreatment can affect cortisol levels into adulthood.[15] Another demonstrated cortisol differences among adults who experienced emotional abuse as children — this difference increased with advancing age.[16] It has been suggested that altered cortisol levels may contribute to adverse brain development in children. Studies have demonstrated differences in brain size and structure between maltreated children and their peers.[17-18]

Some research has shown a relationship between exposure to traumatic events and problems with regulation of affect and impulses, memory and attention, self-perception, interpersonal relations, somatization, and systems of meaning.[19] Maltreated children have shown lower levels of self-esteem than their peers.[20] Children who have been severely physically abused by their parents tend to overidentify anger when viewing various facial expressions in photographs of adults.[21] Once a child is attentive to anger, he or she can remain highly attentive, in an apparent state of anticipatory monitoring of the environment.[9] While this state of heightened attention to anger may help a child adapt to an abusive or dangerous environment, it may also result in incorrect interpretation of emotional cues and high levels of generalized stress.

Research has also shown an association between trauma in early years and health risk behaviors and disease in adulthood. The Adverse Childhood Experiences (ACE) Study is a retrospective examination of the effects of childhood exposure, defined as abuse, neglect, domestic violence or family mental illness, on several leading causes of death and associated risk behaviors in the United States.[22] In this on-going study, adults are asked about traumatic exposure they experienced during the first eighteen years of life. The results of this study show a strong relationship between these exposures and adult smoking, obesity, physical inactivity, depressed mood, suicide attempts, alcoholism and drug use, sexually transmitted diseases, chronic bronchitis, emphysema, heart disease, cancer, and others (see www.acestudy.org for more information). Repeated trauma exposure also is associated with an increased risk of significant mental health issues, including anxiety,[23] depression and severe PTSD.[6, 24]

There is clear evidence of the impact of trauma on children in the child welfare system. Many of these children have "long and complex trauma histories."[25] In addition, some children are removed from home and experience the stress associated with this disruption. These additional stressors that can occur within the child welfare system can affect the child's experience of trauma and their ability to recover. Because children's experiences of and responses to trauma are complex, they may exhibit a wide range of emotional and behavioral symptoms. These symptoms can be easily misdiagnosed without a complete trauma history and a sophisticated, trauma-informed assessment. Despite adverse early experiences, children have resilience and many recover from traumatic events. Upcoming issues in this *eReview* series will further explore the nature of trauma and its effects, and examine how child welfare systems can best create an effective response.

## Implications for Practice and Policy

***Christeen Borsheim***
***Manager of Child Welfare Training and Quality Assurance Programs, Minnesota Department of Human Services***

The research introduced in this article clearly demonstrates that understanding the etiology and effects of childhood trauma is important to child welfare practitioners for improving short and long-term safety, permanency and well-being outcomes for children and youth. Access to this research to build awareness and knowledge of the experience and impact of childhood trauma is the first step toward achieving trauma-informed policy and practice across the child welfare continuum.

The challenge for the statewide child welfare system becomes how to systematically integrate findings of

### eReview Learn more

Visit the CECMH website to find trauma-related articles, educational materials and other resources related to this *eReview* issue. Go to **www.cmh.umn.edu** and click on "eReview".

Join the CECMH listserv to receive weekly updates about training opportunities, job announcements, new research, publications and more — email **cmh@umn.edu.**

Attend the 2009-2010 CECMH Lessons from the Field series on Race, Culture and Children's Mental Health. Go to **www.cmh.umn.edu** and click on "Lessons from the Field".

childhood trauma research into practice and in alignment with the outcomes, values and principles of Minnesota's Child Welfare Practice Model (see http://www.cehd.umn.edu/SSW/cascw/attributes/PDF/events/ImprovingSupervisionPacket/MNCWPracticeModel.pdf). Two approaches for using the research to implement systemic change come to mind —

1. First, this research could be utilized by policymakers as a catalyst to seek out and explore models of evidence-based, trauma-informed child welfare practice and evaluate the outcomes that are being realized when these models are implemented. Comparisons between these models and existing child welfare policy and practice could be used as an assessment of strengths and gaps and to create an inventory of what resources or supports would be necessary to implement an evidence-based model. This exploration should lead to decisions for how to implement changes to child welfare policy and practice based on childhood trauma research.

   Implementation, making the link between research and practice, includes the challenge of taking what we know from research and incorporating it into the daily work of hundreds of caseworkers who work in collaboration with hundreds of other professionals in the child welfare system; and this requires a systematic approach addressing a range of needs identified in the assessment. For instance, completing trauma histories and/or trauma-informed assessments mentioned in this research article represents the need for developing new casework skills and perhaps new documents or other resources to support these activities. Typically, initial implementation of new models of practice in Minnesota is carried out through demonstration or pilot sites with an evaluation component and ongoing quality assurance systems to assess outcomes. Implementation in this fashion is helpful to testing out strategies and achieving success that can be moved to scale once lessons are learned and adequate supports are in place.

2. The second application for utilizing this research is carrying out a systematic plan for training. This research could be utilized to develop and support training for policy makers; child welfare leaders and practitioners; foster care, adoptive and kinship care providers; decision makers, such as juvenile court judges; and other community stakeholders such as school personnel in the evidence-based, trauma-informed policy and practice. Increasing knowledge and awareness of childhood trauma across these broad audiences would have a twofold impact. One, it would improve decision-making and practice in alignment with the evidence-based, trauma-informed child welfare practice model overall; and two, it would motivate additional interest and support for achieving the systemic changes needed to implement and integrate this research into policy and practice and to sustain these efforts over time.

Utilization of this research does not pose any particular problems. However, additional information is needed to respond to some critical questions in order to successfully apply this research to child welfare practice —

- What are specific examples of evidence-based, trauma-informed best practices?
- What is trauma-informed assessment?
- What is the impact of cultural context on trauma? Impact of race/ethnicity?

To affect outcomes for children and families significantly, the child welfare system must learn how to utilize and integrate research into its policies and practices. Disseminating information and provide training and technical assistance to support research-based innovation only goes so far; the primary challenge exists in implementation.

***Sue Lohrbach, MS, LICSW***
***Olmsted County Child and Family Services***

Child welfare reform efforts, particularly those with a focus on targeted early intervention and implementation of differential response systems, include putting the practice back into social work — moving away from historically predominant case management models where the social worker brokers out the services to families and various community providers — and returning to or developing practice models where the social workers themselves engage and build constructive working relationships with families. Given that this change in service delivery methods is underway, this research can be translated into the direct practice context, operationalized through education and supervision, and integrated into everyday work with children and their families. Because child welfare, particularly child protective services, is primary still within the public domain of responsibility, there are opportunities to educate the public through the inclusion of this research in training.

This research could aid the practitioner around lines of query. Knowing what the research says about child-

hood trauma, adverse effects and the likelihood of exposure informs better questions with greater focus in conversation with family members. Because there is also a body of knowledge about past childhood trauma and the subsequent impact on adults, these questions may also prompt discussions about parental childhood trauma that may be connected to certain parenting practices. Child welfare practitioners are responding to families and attentive to the national outcomes of child safety, well-being and permanency. The frontline practitioner is responsible for gathering, organizing and analyzing information specific to assessment, planning and decision-making. When assessing risk and safety, this research could prompt questions to reveal more specific information regarding the impact on each unique child — such as "when that happened, how did the child respond (e.g., curled up and hid, vomited, called 911, intervened)?" Understanding the pattern and history of exposure to trauma leads to questions regarding duration and severity, thereby developing a sense of the cumulative effects and impact on child development. Meaningful information informs strategies of intervention. When the needs are clearly articulated, then the intervention can be clearly linked to a specific child's needs.

The research summarized here is applicable to many types of child welfare settings, including incidents of physical and/or sexual abuse where the assessment can include questions specific to observable symptoms, and situations of potential exposure to adult intimate partner violence and other dangerous environments. This research is also applicable to situations of neglect, which can be particularly challenging and are the most prevalent. If this research is used well within a practice context, then the practitioner can conduct a more thorough baseline assessment to "catch" some of the very early signs of trauma and address potential related developmental decline. Knowing the research about trauma as it relates to attachment, self-regulation and emotional signals informs us about risk for a particular child. For example, when working with a family with a history of termination of parental rights and a subsequent birth, a risk statement (for example, "baby may be emotionally hurt without a secure attachment to a primary caregiver") takes this thorough history and research into account. The context of the risk would be "without a secure attachment to a primary caregiver" and the intervention must address that context to prevent a subsequent disrupted attachment .

Research specific to cumulative trauma is particularly relevant to the child welfare practitioner. African American and Native American populations in the United States have suffered a history of denied opportunities and access to resources. Both populations are over represented in the child protective service system, particularly in out of home placement. Consider a case example. There is an increased likelihood that an African American child will be cared for within a foster care setting when involved in child protective services. For any child, separation can result in distress. The child in this case may have increased vulnerability given a history of cumulative trauma and/or historical oppression. Depending on this child's coping strategies and social support, he or she may react negatively to these circumstances. The child could come to the attention of the juvenile justice system and perhaps face further distress rather than the special intervention needed. By utilizing trauma research and practice implications, the child welfare worker could better understand the child and make better informed decisions so that the negative developmental trajectory for this child could be prevented.

It is important for the practitioner to be familiar with research regarding resilience and recovery. The risk with using a "trauma focus" is that practitioners may only apply professional service solutions without attention to practical family interventions that sustain into the future. We can understand much more about children by knowing what works than what goes wrong. We can assess and understand risk more comprehensively when we examine both risk and resilience. And then we can build plans for safety that are built around a more completed defined context. Future research can inform the line of query to better understand this context. When relationships are built between service recipient and service provider, we learn more about the resources the family and child bring and this informs our work as well as future research.

# References


1. Rangell, L. (1976). Discussion of the Buffalo Creek Disaster: The Course of Psychic Trauma. *Am J Psychiatry, 133*(3), 313-316.

2. Figley, C. R. (ed.) (1986). *Trauma and Its Wake, Vol. 11: Post-Traumatic Stress Disorder Theory, Research, and Treatment,* Brunner/Mazel, New York.

3. Kessler, R.C. (2000). Posttraumatic Stress Disorder: The Burden to the Individual and to Society. *J Clin Psychiatry, 61*(suppl 5), 4-12.

4. Evans-Campbell, T. (2008). Historical Trauma in American Indian/Native Alaska Communities. *Journal of Interpersonal Violence, 23*(3), 316-338.

5. Brave Heart, M.Y.H. (1999). Gender differences in the historical trauma response among the Lakota. *Journal of Health and Social Policy, 10*(4), 1-21.

6. Cloitre, M., Stolback, B.C., Herman, J.L., van der Kolk, B., Pynoos, R., Wang, J., & Petkova, E. (2009). A developmental approach to complete PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress, 22*(5), pp. 399-408.

7. Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., … van der Kolk, B. (2005). Complex Trauma in Children and Adolescents. *Psychiatric Annals, 35*(5), 390-398.

8. Walker, J. S., & Weaver, A. (2007). Traumatic Stress and the Child Welfare System. *Focal Point: Research, Policy, and Practice in Children's Mental Health: Traumatic Stress/Child Welfare, 21*(1).

9. Pollak, S.D., Vardi, S., Bechner, A.M., & Curtin, J.J. (2005). Physically abused children's regulation of attention in response to hostility. *Child Development, 76*(5), 968-977.

10. Pollak, S., Cicchetti, D., & Klorman, R. (1998). Stress, memory, and emotional: Developmental considerations from the study of child maltreatment. *Development and Psychopathology, 10,* 811-828.

11. American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.

12. Bevans, K, Cerbone, A., & Overstreet, S. (2008). Relations between recurrent trauma exposure and recent life stress and salivary cortisol among children. *Development and Psychopathology, 20,* 257-272.

13. Gunnar, M.R., Porter, F.L., Wolf, C.M., Rigatuso, J., & Larson, M.C. (1995). Neonatal Stress Reactivity: Predictions to Later Emotional Temperament. *Child Development, 66,* 1-13.

14. Dozier, M., Manni, M., Gordon, M.K., Peloso, E., Gunnar, M.R., Stovall-McClough, K.C., Eldreth, D., & Levine, S. (2006). Foster Children's Diurnal Production of Cortisol: An Exploratory Study. *Child Maltreat, 11,* 189-197.

15. van der Vegt, E.J.M., van der Ende, J., Kirschbaum, C., Verhulst, F.C., & Tiemeier, H. (2009). Early neglect and abuse predict diurnal cortisol patterns in adults: A study of international adoptees. *Psychoneuroendocrinology, 34*(5), 660-669.

16. Carpenter, L.L., Tyrka, A.R., Ross, N.S., Khoury, L., Anderson, G.M., & Price, L.H. (2009). Effect of Childhood Emotional Abuse and Age on Cortisol Responsivity in Adulthood. *Biol Psychiatry, 66,* 69-75.

17. De Bellis, M.D., Keshavan, M.S., Shifflett, H., Iyengar, S., Beers, S.R., Hall, J., & Moritz, G. (2002). Brain Structures in Pediatric Maltreatment-Related Posttraumatic Stress Disorder: A Sociodemographically Matched Study. *Biol Psychiatry, 52,* 1066-1078.

18. Teicher, M.H., Andersen, S.L., Polcari, A., Anderson, C.M., Navalta, C.P., & Kim, D.M. (2003). The neurobiological consequences of early stress and childhood maltreatment. *Neuroscience and Biobehavioral Reviews, 27,* 33-44.

19. van der Kolk, B.A., Roth, S., Pelcovitz, D., Sunday, S., & Spinazzola, J. (2005). Disorders of Extreme Stress: The Empirical Foundation of a Complex Adaptation to Trauma. *Journal of Traumatic Stress, 18*(5), 389-399.

20. Kim, J., & Cicchetti, D. (2009). Mean-level change and intraindividual variability in self-esteem and depression among high-risk children. *International Journal of Behavioral Development, 33*(3), 202-214.

21. Pollack, S.D., & Kistler, D.J. (2002). Early experience is associated with the development of categorical representations for facial expressions of emotion. *PNAS, 99*(13), 9072-9076.

22. Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards, V., Koss, M.P., & Marks, J.S. (1998). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. *Am J Prev Med, 14*(4), 245-258.

23. Cortes, A.M., Saltzman, K.M., & Weems, C.F. (2005). Development of anxiety disorders in a traumatized pediatric population: A preliminary longitudinal evaluation. *Child Abuse & Neglect, 29*(8), 905-914.

24. Suliman, S., Mkabile, S.G., Fincham, D.S., Ahmed, R., Stein, D.J., & Seedat, S. (2009). Cumulative effect of multiple trauma on symptoms of posttraumatic stress disorder, anxiety, and depression in adolescents. *Comprehensive Psychiatry, 50,* 121-127.

25. Ko, S.J., Ford, J.D., Kassam-Adams, N., Berkowitz, S.J., Wilson, C., Wong, M., Brymer, M.J., & Layne, C.M. (2008). Creating Trauma- Informed Systems: Child Welfare, Education, First Responders, Health Care, Juvenile Justice. *Professional Psychology: Research and Practice, 39*(4), 396-404.

## eReview Editorial Information

The *Children's Mental Health eReview* was created in partnership with the Center for Advanced Studies in Child Welfare at the University of Minnesota (cehd.umn.edu/SSW/CASCW)

Editor: Cari Michaels, MPH

Center for Excellence in Children's Mental Health
University of Minnesota
270 A McNamara Alumni Center
200 Oak Street S.E.
Minneapolis, MN 55455

Tel: (612) 625-7849
Fax: (612) 625-7815
Email: cmh@umn.edu
Web: www.cmh.umn.edu

This document funded in part by grant #439481, 000000013744 awarded to the Center for Advanced Studies in Child Welfare, School of Social Work at the University of Minnesota. Grant funds are Title IV-E funds made available through the Minnesota Department of Human Services, Children and Family Services Division.