

Special Section
Frontiers in Translational Research on Trauma

SPECIAL SECTION EDITORIAL

Frontiers in translational research on trauma

SHEREE L. TOTH^a AND DANTE CICCETTI^{a,b}

^a*Mt. Hope Family Center, University of Rochester; and* ^b*University of Minnesota*

Although the term translational research has become increasingly popular, an actual consensus on its exact meaning has been slow to emerge (Cicchetti & Toth, 2006; Gunnar & Cicchetti, 2009). Most commonly, the term has been viewed as referring to the “bench-to-bedside” endeavor to utilize knowledge gained from basic scientific research to develop and test new treatment options (Insel, 2009; Insel & Scolnick, 2006; Pine, Helfinstein, Bar-Haim, Nelson, & Fox, 2009; Zerhouni, 2005). However, this definition is derived from a medical model and, as such, can be overly narrow with respect to psychosocial interventions. Moreover, the availability of treatments does not ensure that they will be widely available to those in need of them. Thus, a second area of translational research involves improving access to innovative treatments that have been developed (Woolf, 2008). The Institute of Medicine’s Clinical Research Roundtable first articulated this distinction in their discussion of translational roadblocks, with the first block pertaining to transfer of knowledge gained in the laboratory into the testing of new methods of diagnosis, prevention, and treatment and the second block relating to the translation of results from clinical trials into everyday clinical practice (Sung et al., 2003).

Over the past several decades, significant advances in the behavioral and social sciences and in the neurosciences, molecular biology and genomics, have enhanced our under-

standing of contributors to both atypical and positive development (Cicchetti, 2002b, 2010; Curtis & Cicchetti, 2003; Shonkoff, 2010; Shonkoff & Phillips, 2000). Similarly, knowledge on factors that can undermine a positive developmental trajectory has burgeoned (Charney, 2004; Cicchetti & Cohen, 1995a, 1995b, 2006a, 2006b, 2006c; Rutter & Sroufe, 2000). Thus, we are becoming particularly well-positioned to utilize research findings to develop, evaluate, and disseminate empirically supported prevention and treatment strategies (Toth, Manly, & Nilsen, 2008).

One particularly virulent stressor that has emerged as contributing to adverse outcomes for children involves exposure to trauma. A traumatic event is typically defined as involving experiencing or witnessing actual or threatened death or serious injury or a threat to the physical integrity of self or others that is accompanied by a response involving intense fear, helplessness, or horror (American Psychiatric Association, 2000). Trauma may involve a single or repeated event and its adverse effects may be absent, transient, delayed, or sustained. Traumatic events that have been studied most frequently include child maltreatment, witnessing domestic violence, community violence, and exposure to natural disasters. Over 25% of children and adolescents in the United States have experienced a traumatic event prior to age 16 (Costello, Erkanli, Fairbank, & Angold, 2002). With respect to child maltreatment, according to the most recent National Incidence Study (Sedlak et al., 2010), over 1.25 million children in the United States experienced maltreatment during 2005–2006 according to the strict Harm Standard, with 44% experiencing abuse and 61% experiencing neglect. Numerous negative neurobiological, psychological, and physical sequelae, many which persist throughout the life course, have been documented in child maltreatment research (Cicchetti & Toth, 2005; Danese et al., 2008; McCrory, De Brito, & Viding, 2010; Tyrka et al., 2009).

According to the Adverse Childhood Experiences Study (Felitti et al. 1998), which followed over 8,000 children, 66%

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Address correspondence and reprint requests to: Sheree L. Toth, Mt. Hope Family Center, 187 Edinburgh Street, University of Rochester, Rochester, NY 14608; E-mail: sheree.toth@rochester.edu.

had experienced at least one adverse childhood event and more than 20% had experienced three or more events. The effects of childhood trauma are wide ranging and include increased health risks for alcohol and substance use and abuse, depression, suicide attempts, poor self-related health, and sexually transmitted disease. Moreover, adults with a history of self-reported adverse childhood experiences exhibited increases in physical inactivity and severe obesity. Furthermore, persons who experienced multiple categories of childhood exposure to adverse experiences were more likely to develop a number of health risk factors and adult diseases (e.g., cancer, lung disease, heart disease, and liver disease) later in life. Of particular concern, children with histories of trauma have morbidity 20 years sooner than individuals without histories of trauma.

The numbers of children who experience trauma, in conjunction with the adverse and potentially life-altering consequences of childhood trauma, highlight this area as possessing significant public health significance. As such, investigations of childhood trauma are poised to benefit from a translational research agenda both to better understand the effects of trauma on basic developmental processes as well as to contribute to knowledge needed to develop, evaluate, and disseminate empirically informed intervention strategies to populations most in need.

Although historically investigations of trauma have focused largely on socioemotional sequelae, over the course of the late 20th century increased attention was directed toward advocating for the importance of utilizing a multiple levels of analysis approach to investigating normal and atypical developmental processes (Cicchetti & Dawson, 2002; Cicchetti & Valentino, 2007; Masten, 2007). Research conducted in the fields of contemporary neuroscience and developmental psychopathology were at the forefront of such efforts (Cicchetti, 2002a). Thus, it is fitting that the contributions to this Special Section of *Development and Psychopathology* include articles addressing neurobiological, molecular genetic, cognitive, socioemotional,

neuroendocrine, and psychophysiological aspects of functioning. By examining trauma in such a comprehensive fashion, the translation of research findings into clinical and social policy contexts will be facilitated.

Mt. Hope Family Center, University of Rochester, is grounded in the multidisciplinary field of developmental psychopathology. As such, Mt. Hope Family Center has been at the forefront of fostering collaborative endeavors among scientists, clinicians, and policymakers to ensure that science and service synergistically work together to reach vulnerable children and families. In celebration of the Center's 30th Anniversary, a symposium entitled "Frontiers in Translational Research on Trauma" was held in November of 2009. Scholars across the nation traveled to Rochester, New York, to share their translational research and to interface with community partners, including professionals from legal, clinical, educational, and child welfare arenas who were in attendance at the symposium. Such initiatives are integral to ensuring that the best theory, research, and practice truly are translated into real world contexts. It is an honor to be able to include many of the resulting articles in this Special Section of *Development and Psychopathology*.

The contributions to this Special Section of *Development and Psychopathology* were prepared by scholars who have been committed not only to understanding how trauma may undermine adaptation but also to ensuring that the knowledge generated from their research ultimately translates into improved interventions and policies for populations affected by trauma. It is our hope that the articles in this Special Section will provide a roadmap for scientists invested in ensuring that the fruits of their research benefit individuals struggling with the aftermath of trauma. Although the road from science to practice is fraught with potholes that must be carefully circumvented, the work of these scholars illustrates the exciting benefits that can ensue to those willing to work collaboratively to translate research into practice.

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