

Toxic Stress and Child Development: Costs, Consequences, and Policy Options

Pat Levitt, PhD

Simms/Mann Chair in Developmental Neurogenetics, Children's Hospital Los Angeles and WM Keck Chair in Neurogenetics, Keck School of Medicine of the University of Southern California

Scientific Director, National Scientific Council on the Developing Child

The core story of brain and child development is comprised of seven key elements that are based on decades of economic and neuroscience research. We know that:

- Healthy brain and child development is the foundation of prosperous communities
- Brains are built from the bottom-up, with simple skills coming 'online' first, followed by more complex skills.
- Genes and experience together build healthy brain architecture. The most important positive factor is social interaction, the back and forth interactions between an infant and their primary caregivers. We call these '*serve and return*' interactions.
- Cognitive, social and emotional development is inextricably intertwined. You cannot do one without the others.
- Toxic stress, the severe, repetitive adverse experiences that children can, comes in the form of neglect and abuse. These damage brain architecture.
- Resilience is not an internal character strength. In fact, resilience is built early in child development, through a combination of experiences that impact the brain architecture that control specific executive function skills needed to adapt to challenges throughout a lifetime.
- For many functions, the brain's capacity for change decreases over time. There is a cost-effectiveness factor, because even if change can be produced later, it costs far more than doing things right from the beginning.

The development of sound policies that make sense economically, and for promoting strong families and communities, is informed by brain research. Here, we will emphasize why doing things *early* is so important, the essential elements of child-adult interactions, what skills make up executive functions and why are they so important to promote, and how all of these factors come together to impact child resilience.