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Democracy Dies in Darkness

‘Toxic stress’ in the classroom: How a public health approach could help

By Sheila Ohlsson Walker and Melissa Steel King
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Children living in poverty often are exposed to high levels of constant stress that can be debilitating, not only in terms of their physical health but also their ability to learn. So what are schools to do?

Below, two writers argue — in their own voices, first, and then together with one voice — that schools and health providers must join forces to make sure children are getting the help they need. Sheila Ohlsson Walker, who studies the intersection between stress and educational outcomes, is an assistant scientist at Johns Hopkins University’s Bloomberg School of Public Health. She also is a board member with Turnaround for Children, a nonprofit that works to help high-poverty schools better serve their students, including by linking them with community mental health providers. Melissa Steel King is an associate partner at Bellwether Education Partners in Washington, D.C., who has years of experience in research and evaluation of educational programs. She began her career in the late 1990s as a teacher in New York City. Her husband, John King Jr., is U.S. Education Secretary. (Note: Bellwether’s past clients include two organizations mentioned in this piece: KIPP charter schools and Startup:Education, a grantmaking organization founded by Mark Zuckerberg and Priscilla Chan.)

— Emma Brown

By Sheila Ohlsson Walker and Melissa Steel King

King: It was only a few days into my first year of teaching when I found myself trying to coax Jonathan out of the classroom closet. A usually quiet first grader with sweet brown eyes, Jonathan had gotten into an argument with a classmate, thrown a desk-shoving fit, and fled into the closet, refusing to come out.

These episodes became a regular occurrence over the next few weeks, and Jonathan struggled academically. Not until a chance conversation with his previous teacher did I learn the story behind his outbursts: At the age of 3, Jonathan and his older brother had been in their apartment when intruders broke in and shot and murdered both of their parents. The two boys hid in a closet until they were found more than 24 hours later.

I quickly understood that his ability to learn was fundamentally intertwined with his need to feel emotionally and physically safe. What I did not know is that neurobiological research by scientists like Sheila, whose work focuses on the intersection between nature and nurture, could have provided me with key insights into how to help Jonathan succeed.

Walker: Stories like Jonathan's demonstrate the necessity for enhanced teacher training, and for closer partnerships between the fields of education and medicine — especially for our most vulnerable children.

Like many teachers, Melissa's preparation for classroom instruction had not included material about trauma and its effect on a child's developing brain. Accordingly, she was unaware that years of neurobiological research have put a name to the force that was driving her student's behavior: toxic stress.

Stress is a necessary and important factor for enhancing motivation and performance. But it can become harmful — and, at its worst, "toxic" — when circumstances force the biological stress response system to go into and remain in overdrive, like a gas pedal stuck in the floored position. As in Jonathan's case, this overactive stress response can hinder healthy neural traffic patterns in the brain and derail the learning process.

In addition to interfering with learning, living with toxic stress can leave children like Jonathan more vulnerable to long-term issues with mental and physical health.

The Adverse Child Experiences (ACE) study, which surveyed middle-aged adults on traumatic events experienced before age 18, found that the higher the dose of adversity in childhood, the likelier it is that one will suffer from chronic conditions such as cardiovascular disease, type 2 diabetes, and chronic obstructive pulmonary disorder later in life. Childhood adversity also increases vulnerability to psychiatric conditions such as depression, anxiety, ADHD, and post-traumatic stress disorder (PTSD) – all of which have profound implications for learning and life in and outside of the classroom.

King: When I began teaching in 1998, I did not have the skills I needed to address the consequences of the trauma that many students in our high-poverty, urban school community had experienced. It was through trial and error that I stumbled upon effective strategies for reaching my students: developing a common definition of a "safe classroom," helping children identify their emotions, practicing conflict resolution skills, and creating a "peace corner" where overwrought students could regroup if needed. With help from a school counselor, I created clear and consistent boundaries for my students, including Jonathan, and provided lots of positive reinforcement for any baby steps towards more productive behavior.

A big breakthrough for Jonathan came during a spring unit on "community helpers." I was in the middle of reading aloud a book about firefighters when he raised his hand to share that "the fire trucks came" to help him the day he lost his parents.

It took incredible trust in me and his classmates to feel safe enough to reveal this deeply painful memory in class. In the days that followed, he shared more memories – and at the same time, I began seeing a dramatic improvement in his stunted reading and writing skills. By the end of the year, he had progressed enough to move out of a reading intervention class, and his academic and emotional journey were poignantly captured in a "Hope" poster on which he carefully sounded out the sentence: "I hope no more bad gois [guys] kill."

Walker: How was Jonathan able to resume a positive developmental course despite the effects of toxic stress? When children have the right support –- including, always, a relationship with a safe, trusted adult — the very same biological and social mechanisms that can impair a child's developing brain and immune system also can operate to build health and resilience.

Research in the field of epigenetics, the process by which our genes are expressed, demonstrates that the right support at the right time can act as a dimmer switch, turning on or off genes that can shape a child's brain and health in positive ways. Good nutrition, exercise, and sleep, along with the healing power of a caring, consistent adult, can mitigate or even reverse the negative effects of toxic stress.

In other words, by providing over-stressed children access to healthy experiences and positive environments, we can profoundly alter their life trajectories.

King and Walker: Our common goal, from different starting points, is to collectively help children like Jonathan get the strongest possible start in life.

The large and growing research base on the power of early intervention to change children's long-term prospects for learning and health provides a clear message – one that reinforces the need for educators and health care providers to form closer partnerships and share knowledge.

The concept of health-education collaborations is not new; some individual schools and communities are putting the concept into practice. In Maryland, KIPP Baltimore provides on-site dental and medical care to its K-8 students, and over the next five years, Johns Hopkins University researchers will study the impact on children's health, behavioral and academic outcomes. Fall 2016 will see the launch of The Primary School in East Palo Alto, Calif., founded by Priscilla Chan, a pediatrician, and her husband Mark Zuckerberg, founder of Facebook; it will provide education, dental, and health services for K-12 students through graduation. Initiatives around the country by organizations like Communities in Schools and the Children's Aid Society are demonstrating that at-risk children's health and learning can improve when students, teachers, and families have school-based access to health experts and services.

But to reach all children, we need a system-wide approach that links health providers and educators, as well as greater attention to training teachers to address trauma in the classroom. School districts, counties and states must invest more in partnerships that marry the goals of public health and public schools, and that can help spread initiatives like wraparound services, school-based health clinics, parental education and health services, and school-health center collaborations. And it is essential to equip teachers themselves with the tools they need to recognize the symptoms of toxic stress and employ strategies in the classroom that build resilience.

Bottom line: Understanding basic concepts in child development and brain science will allow teachers to intentionally create learning environments that help students like Jonathan establish building blocks for learning, amplifying the opportunity to reach their full human potential. Knowing the research and partnering with health experts can help teachers and students not only beat the odds, but change the odds.