Rethinking Child Behaviour as a Neurophysiological Phenomenon

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Recent neuroscience has allowed us to conclude with near certainty that early relationships impact a child's developmental trajectory (Shonkoff & Phillips, 2000; Shonkoff, Boyce, and McEwen, 2009). In education in particular, early student-teacher relationships have long been known to relate to a child's academic and socioemotional outcomes in the classroom (Downer, Sabol, & Hamre, 2010; Hamre & Pianta, 2001, 2005; Sabol & Pianta, 2012). Recent insight into the neuroscience of stress allows us to rethink these findings from a neurophysiological stance.

First, it is now understood that a child's neurophysiological stress response system significantly impacts their cognition and behavior; a heightened stress response "robs" the brain of the energy and attention needed to learn and behave adaptively (Blair, Grangers, & Peters-Razza, 2005; Ruttle et al., 2011; Shanker, 2016). A child experiencing stress that exceeds his or her adaptive capacity has difficulty being calm, focused and alert. Second, it is known that relationships with significant others influence a child's neurophysiological response to stress; the stress response can be moderated or heightened by emotional support, or lack thereof (Gunnar, Brodersen, Nachmias, Buss, & Rigatuso, 1996). Research shows that emotionally supportive interactions with educators can reduce stress in children (Ahnert, Harwardt-Heinecke, Kappler, Eckstein-Madry, 2012; Dettling, Parker, Lane, Sebanc & Gunnar, 2000; Sims, Guilfoyle, & Parry, 2005). This research elevates the urgency with which we should endeavor to promote emotionally supportive student-teacher relationships, particularly in the early years when neural, developmental, and academic trajectories are first established. It also encourages us to rethink the importance of student teacher relationships (STRs) from a neuroscientific standpoint.

How can this neuroscience be leveraged to inform our efforts to promote emotionally supportive relationships and ultimately student learning? First, we might train early educators to *rethink child behavior*, a key variable in the student-teacher relationship (Birch & Ladd, 1998; Rudasill, 2011; Rudasill, K. M., Reio Jr., T. G., Stipanovic, N., & Taylor, J. E., 2010), from a neurophysiological lens. Second, we might train educators to *rethink the importance of emotionally supportive relationships* from this same neurophysiological lens.

The need to rethink child behavior and student teacher relationships is more critical now than ever before. The rise in educator reported challenging behavior (Gilliam, 2002; Scholastic, 2012) and educator stress (Travers & Cooper, 1996) is putting increasing strain on these critical relationships and by extension, threatening the early school success of many children. Reframing traditional views of child behavior, especially challenging behavior, using a neurophysiological lens offers the promise of a fresh view of the child and improved prospects for emotionally supportive student-teacher relationships.

This presentation will:

- Present research on the neurophysiology of stress and its impact on child behavior and cognition
- Encourage participants to think about the implications of understanding challenging child behavior as stress behavior versus misbehavior. What if there was no such thing as a "bad" kid?
- Present preliminary information on a professional learning intervention designed to reframe educator understanding of child behavior as a product of stress and the neurophysiological significance of emotional support in STRs

Potential Discussion Questions:

- How do educators traditionally understand child behavior and how have these traditional views influenced our response to children and to challenging behavior in particular?
- How do new findings regarding the neuroscience of stress change how we think about child behavior and our response to it?
- What are the implications of new findings regarding neurophysiological roots of child behavior for educator training and professional development?

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