

It 'Still' Takes a Village

About Secure Relationships in Times of ~~Social~~ Physical Distancing

by
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The COVID-19 pandemic burst into our lives both suddenly and aggressively, and forced rapid and drastic changes in our daily routines and behaviours. Children are admirably doing their part to fight the pandemic and flatten the curve. They quickly applied the new rules while putting aside their education, social lives, outdoor activities and sometimes much more. We adults keep reassuring them (and ourselves)

that COVID-19 is not a direct threat to their health, and by isolating ourselves we are protecting others who are vulnerable to the virus. This is a great lesson in humanistic solidarity. However, it is our duty as educators to challenge the conception that children are less vulnerable to this pandemic. The truth is that we don't know the short and long term implications of this situation on our children. It will take many years and longitudinal studies to find out. But this does not mean we should 'sit and wait' for the future to unfold and give us the answers, because our actions now can change the trajectory of children's future. Brain science can shed some light on the impact of the current situation on their development and future.



The sudden loss of structure in so many individuals' lives simultaneously increases the levels of collective chaos and stress. What does brain science tell us about stress and its effects on children? According to research stress is contagious; exposure to others in stress can activate our own stress system. Sensitivity to stress differ between individuals; some children are (genetically) more susceptible than others to the negative effects of toxic stress on physical and mental health. Human development contain sensitive periods, in which brain systems go through massive changes and remodeling. These periods of enhanced plasticity and malleability are opportunities for growth but also vulnerable to stress, which can have a life-long effect on brain structure and function. Our students may be immune to the Coronavirus, but they are extremely vulnerable to the current stress the pandemic generates.

Fight-or-Flight

In response to danger, the nervous system releases stress hormones to raise alertness and prepare the body to act quickly. Whether it is a physical threat (like a car approaching too fast in our direction), or a psychological threat (like public-shaming), the brain reacts similarly by activating the 'fight-or-flight' survival mode.

We can identify different stress responses based on their amplitude, duration and available coping resources. Mild and brief elevation in stress hormones can actually be positive and useful in situations that require our full presence, high performance, and sharp response. This is the excitement students experience before taking an important exam, or the adrenaline rush we experience after avoiding a car crash by reacting quickly and accurately. When facing difficult life events or sudden changes in circumstances that require quick adaptation (like a world pandemic and schools shut-down) the stress response system is consistently activated for a prolonged time. This chronic stress can still be tolerable, and even valuable

for building resilience, but without intervention, the wear and tear on the brain can be disruptive for its development.

Toxic Stress: Not Just a Metaphor

Chronic activation of the stress system alters brain structure and function. Three key players in the human brain that are highly affected by chronic stress are the Amygdala, Hippocampus and Pre-Frontal Cortex (PFC). The Amygdala and Hippocampus are structures in the limbic system, our ancient and intuitive 'mammalian brain'. Amygdala is central in processing emotional content and detecting threat. The Hippocampus is essential in learning, forming long term memories and spatial navigation. The PFC, the most modern part of the human brain, serves our highest-order cognitive abilities and executive functioning; inhibition, flexible thinking, working memory, emotional regulation, planning and complex decision making. Our students' brains are works-in-progress, and normally during their school years their PFC is still very much developing. In fact, it will reach full maturation only in their mid-20s, a decade after the limbic system.

On a global, societal level we witnessed a clear shift to 'survival mode' in response to COVID-19 pandemic; countries prioritize human survival rates over growth (education, recreation and economic thrive). On an individual level, the human brain priorities very similarly; when shifting to survival mode it directs most of the energy to the fight-or-flight limbic system, and the autonomic nervous system (ANS). The PFC is the most sensitive brain region to the effects of stress. Ongoing stress leads to a PFC "shutdown" so the ability to think flexibly, rationally or regulate emotions drops significantly. In addition, chronic stress leads to decrease in Hippocampal volume, and proliferation of the Amygdala. The stressed brain, therefore, has a narrowed and fixed perception of reality (due to the PFC "shutdown"), and is over-

focused on threat and survival (due to enlarged and reactive amygdala, and shrunken Hippocampus). The more children experience uncontrolled stress, the more their brains practice survival mode activation and build the networks to support this state-of-mind (without intervention this may become their default). Overall, brain studies point at a shortened plasticity period in the developing brain, in response to toxic stress. A possible explanation for that is an early transition from learning and development mode (the biological essence of childhood) to performance and survival mode (the biological essence of adulthood). Early brain maturation as a result of toxic stress and trauma is usually at the price of underdeveloped brain systems.

Secure Relationships: the Antidote to Toxic Stress

The secret ingredient that makes the difference between toxic and tolerable stress is a secure relationship. We are extremely social animals, with extremely long periods of childhood and dependence on parental figures. The research shows that a trusting adult (even just one) can turn around a child's life. In the emotional domain, adults have an essential role in validating children's experience and inner world, as they grow their confidence and self-identity. In the cognitive domain, adults have a critical role in helping children process difficult life experiences, making sense of them and build their coherent narratives. In her recent neuroimaging study, Dr. Immordino-Yang from the University of Southern California, found that adolescents who could make sense of dangerous and potentially traumatic events, and communicate their sense-making in narratives, were more resilient and successful, even years later as young adults. Moreover, those who exhibited a broad-perspective narrative, had a stronger brain



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extrinsic brain networks (which may point to a higher cohesiveness and integration). Specifically, networks that were involved in detecting emotional-saliency, tuning attention (extrinsic) and reflection (intrinsic). Our brains develop in a social context through our interactions and relationships. We influence, regulate and shape each other's brains. How do we maintain our brains' synchronization in times of physical distancing? What is our role as educators in this new, unfamiliar situation?

Education Can Be Healing. Educator Presence Can Be Life Changing

Educators were among the first responders to COVID-19 crises; working tirelessly to quickly invent a new learning system. Understandably, a big part of that effort was directed at maintaining students' academic learning, but first and foremost, the education system is the modern 'village'. Even though our lifestyle has completely changed over the recent century, it STILL takes a village to raise a child. On top of many other things, COVID-19 reminded all of us, the importance of the village in raising children (because it suddenly was taken from us).

It is our duty to reach out to our students, to actively check-in with our most vulnerable students and not wait for them to approach us (they won't always will, and they need us). We need to create space for our students to communicate their thoughts and feelings and to support them in making-sense of this situation. We need to encourage them to share their stories and we need to listen to them. We must show-up for them emotionally while they navigate through this storm. For some of them we might be the life jacket they desperately need, to make it a tolerable rather than a toxic storm.

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