

Parental Socio-Neuro-Rehabilitation Intervention Model to Enhance Top-Down Prefrontal Control During Toxic Stress.

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Abstract

In the challenging context of our VUCA world, children's mental and emotional well-being is increasingly vulnerable, necessitating the cultivation of resilience and adaptability. The creation of supportive environments enhances the regulatory function of the prefrontal cortex (PFC) over emotions, thoughts, and behaviors—crucial for fostering resilience in children. Exposure to Adverse Childhood Experiences (ACEs) such as maltreatment, neglect, or instability within the household can induce toxic stress, which overwhelms the PFC and activates primal brain circuits, resulting in impulsive or aggressive actions. Adversity can severely test the mental strength of young people, often leading to vulnerability and emotional distress. Such toxic stress may lead to trauma, a complex phenomenon with extensive impacts on mental, physical, and social health. Trauma—stemming from natural disasters or human actions—can leave individuals feeling powerless, shaking their sense of control, connection, and purpose, and can cause mood swings, cognitive shifts, and maladaptive behaviors like intrusive thoughts and hyperarousal. Parents have a crucial role in establishing a nurturing and consistent backdrop, fostering mental resilience in their children to counteract trauma's adverse effects. We propose a comprehensive model that integrates neurophysiological and emotional social components. This parent-focused model aims to optimize PFC functionality and neurotransmitter balance, aiding in trauma recovery. Moreover, interventions like routine establishment, mindfulness, creative pursuits, and positive psychology can bolster resilience, even in those without inherent robustness. Clear parent communication and timely professional support for notable behavioral shifts are emphasized, equipping children to prosper despite adversities.

Keywords: VUCA; Emotional Distress; Adverse Childhood; Trauma; Parent Interventions.