# Making the Mind Matter: Stress Mindset Effects on Sleep Quality, Stress Response, Emotion and Cognition in the Developing Adolescent Brain and the Role of the Prefrontal-Amygdala Circuit

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Stress is an integral part of daily life and is often portrayed as a negative phenomenon since it causes physical illness as well as cognitive functions deficits. However, not everybody develops stress related impairments; raising the question whether one's positive or negative stress mindsets affect stress response causing change in physiological, psychological and cognitive functions. With this in mind, the research was focused to explore the association of stress-elicit mindset and stress response that affects sleep quality and neurobehavioral and prefrontal cortex-dependent cognitive functions in adolescents. Adolescents (n=71) were divided into two groups: Positive Stress Mindset (PSM) and Negative Stress Mindset (NSM) on the basis of Stress Mindset Measure (SMM). Using a blind study design both groups were tested in two sessions, Baseline Session (control) and Stress Session (experimental). Sleep quality was assessed by Bergen Insomnia Scale (BIS). A series of tests, assessing daytime sleepiness (PDSS), mood (PANAS-NA), anxiety (STAI), physical stress response (BP/HR), attention (Stroop), and working memory (PASAT), were administered. Student-t tests were used to compare and analyze significant difference in two groups. Pearson correlation and path analysis were used to test the relations among the variables. A p-value <0.05 was considered statistically significant. The results clearly indicate that engaging in a stress eliciting mindset contributes to negative stress response impacting sleep quality, emotion and cognition. The study could help understand how mindset matters in responding to stressors and find an intervention or a health education program that teaches adolescents to rethink stress as helpful to reduce the risk of neurobehavioral deficits.

**Awards Won:**