

ABSTRACT

Can Mindfulness Training Reduce Stress-Reactivity in First-Year College Students?

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The effects of mindfulness-based practices on stress reactivity have been gaining steady attention in recent years. Yet, the effects of mindfulness training on stress responses via the autonomic nervous system (ANS) functioning, and in particular, changes in cardiovascular activity, have rarely been researched. The polyvagal theory (Porges, 1995) offers a theoretical framework in which the roles of the subdivisions of the ANS in regulating emotion and behaviors are delineated, and closely connected to the concept of heart rate variability (HRV) and its association with stress responses. A select literature review highlighting prior mindfulness studies utilizing physiological markers to index the ANS response to stress in different populations across the lifespan follows. Special attention is given to first-year college students, and their unique challenges as they navigate this critical juncture in their lives. In this study, a sample of 25 first-year Brooklyn College students were randomly assigned to attending six weekly sessions of either mindfulness training (intervention group) or a ‘sham’ mindfulness stress-reduction condition (control group). Subjective reports of stress and psychophysiological responses during a lab social stressor were assessed pre and post trainings. Additionally, trait mindfulness was assessed prior to the training. Results showed that participants in the mindfulness group had statistically significant increases in their HRV measures from pre to post

training, indicative of an attenuated stress response, and a more balanced ANS. Specifically, participants who were dispositionally lower in trait mindfulness were the ones to gain these stress reduction training-related benefits, while those high in dispositional mindfulness did not show similar gains. These results provide initial evidence that mindfulness training may be an effective means to reducing stress reactivity in college students, especially at the pivotal transition into college life.

Keywords: mindfulness, meditation, stress response, emotion regulation, heart rate variability, Polyvagal theory, first-year college students, the trier social stress test