

A Randomized Controlled Trial of Psychological Outcomes of Mobile Guided Resonant Frequency Breathing in Young Adults with Elevated Stress During the COVID-19 Pandemic

by

Al Amira Safa Shehab

Advisor: Joel R. Sneed, PhD

ABSTRACT

Deep breathing practices have shown promise in reducing stress, anxiety, and depression in different populations, including young adults. Specifically, resonant frequency breathing can exert an impact on stress response systems through the vagus nerve and the hypothalamo-pituitary-adrenal (HPA) axis. This may induce reductions in stress and improvement in emotion regulation. Young adults, including college students, tend to be at a higher risk for psychological distress, as they face several psychosocial challenges. The COVID-19 pandemic has imposed new and unique stressors that resulted in higher levels of stress and emotional symptoms and it has been shown that this may have placed young adults at a particular disadvantage. The current study is a randomized controlled trial that aimed to investigate the effects of a mobile application guided resonant frequency breathing training on stress, anxiety, and depression in young adults with elevated stress. Eighty participants were randomized to either a breathing group or a waitlist control group (40 participants in each group). Breathing group participants were instructed to complete two 10-minute breathing sessions per day for five days of the week for a period of 4 weeks. Self-report outcome measures were administered at baseline and at post-training, as well as weekly through online questionnaires. The results showed that the breathing intervention did not result in a higher decrease in stress, anxiety, or depression measured at post-training. However, weekly data showed a decline in stress at weeks 3 and 4 and a lower perceived

psychological impact of the COVID-19 pandemic in the breathing group relative to the control group. All participants also showed a decrease in psychological distress over time. The current findings are in line with previous literature during the COVID-19 pandemic showing reductions in psychological distress in young adults in the United States. This breathing paradigm could be an accessible, effective, and feasible intervention for young adults experiencing increased stress.