

SELF-GUIDED MULTIMEDIA STRESS MANAGEMENT AND RESILIENCE TRAINING FOR FLIGHT CONTROLLERS

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Stress and anxiety-related problems are among the most common and costly behavioral health problems in society, and for those working in operational environments (i.e. astronauts, flight controllers, military) this can seriously impact crew performance, safety, and wellbeing. Technology-based interventions are effective for treating behavioral health problems, and can significantly improve the delivery of evidence-based health care. This study is evaluating the effectiveness, usefulness, and usability of a self-guided multimedia stress management and resilience training program in a randomized controlled trial (RCT) with a sample of flight controllers at Johnson Space Center. The intervention, SMART-OP (Stress Management and Resilience Training for Optimal Performance), is a six-session, cognitive behavioral-based computer program that uses self-guided, interactive activities to teach skills that can help individuals build resilience and manage stress. In a prior RCT with a sample of stressed but otherwise healthy individuals, SMART-OP reduced perceived stress and increased perceived control over stress in comparison to an Attention Control (AC) group. SMART-OP was rated as “highly useful” and “excellent” in usability and acceptability. Based on α -amylase data, individuals in SMART-OP recovered quicker and more completely from a social stress test as compared to the AC group [1].

In the current study, flight controllers are randomized either to receive SMART-OP training, or to a 6-week waitlist control period (WLC) before beginning SMART-OP. Eligible participants include JSC flight controllers and instructors without any medical or psychiatric disorder, but who are stressed based on self-report. Flight controllers provide a valid analog sample to astronauts in that they work in an operational setting, use similar terminology to astronauts, are mission-focused, and work under the same broader work culture.

The study began in December 2014, and to date 79 flight controllers and instructors have expressed interest in the study, 49 of those were cleared for participation, we have screened 44 for eligibility, and 23 have met inclusion criteria. Recruitment is ongoing and the study will continue until December 2016. Outcome measures include perceived stress, perceived control over stress, resilience, mood, personality, emotion regulation, sleep, health behaviors, and psychophysiological data such as 24-hour heart rate, alpha amylase, and urinary and salivary cortisol. We are also collecting user feedback such as usability, working alliance, usefulness, and treatment credibility.

[1] Rose, R.D., Buckey, J.C., Zbozinek, T.D et al. (2013), A randomized controlled trial of a self-guided, multimedia, stress management and resilience training program. *Behaviour Research and Therapy*, 51(2), 106-112.