

Abstract

Contemporary information and communication technologies (ICTs) such as e-mail and instant messaging create frequent interruptions in the workday, which can potentially reduce business productivity and increase stress. However, we know little about how ICT-enabled interruptions cause stress and how individuals can use ICTs to cope with this stress. Using the transactional model of stress as the theoretical framework, we examine ICTs' influence on the stress process. We examine two demands that serve as stressors: quantity and content of ICT-enabled interruptions. These stressors influence perceptual stress, which then manifests into physical strain. To understand how to mitigate ICT-enabled stressors' influence, we examine three forms of control that potentially moderate demand's influence on the stress process: timing control, method control, and resource control. Timing control serves as a primary control, control that is present at the initial appraisal of an environment, while method control and resource control serve as coping behaviors, behaviors that individuals enact after they feel stressed. In order to rigorously assess the outcome variable, we used a non-invasive salivary technique to measure alpha-amylase, a hormone that is an objective indicator of strain. We used two laboratory experiments to test our model. In Experiment 1, we found that ICT-enabled demands served as stressors and led to perceptual stress and that ICT-enabled timing control negatively moderated the relationships between stressors and stress. In Experiment 2, we found that method control negatively moderated the relationship perceptual conflict had with strain, while increasing perceptual overload's relationship to strain. Resource control had the opposite finding: it negatively moderated perceptual overload's relationship with strain, while increasing perceptual conflict relationship with strain. The results provide insight into how ICTs create episodic stress and facilitate our ability to manage it. We conclude the paper with implications for research, methods, and practice.

Keywords: Technostress, Information and Communication Technology, Alpha-Amylase, Stressors, Strain, Transactional Stress, Demands Control Model, Interruptions