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REGULATORS OF DIGITAL STRAIN AND WELL-BEING IN THE ORGANIZATIONAL CONTEXT

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Abstract

Despite the benefits that information technologies bring to its users, the present working environment is becoming stressful for employees due to increasing digitalization and fast-changing modern technologies. The aim of this cross-sectional study was using Job Demands-Resources theory to verify the assumption that technostress inhibitors in the organization, a high level of resilience, and computer self-efficacy reduce the perception of digital load among employees and positively influence job related well-being, and technostress creators on the other hand increase employees' perception of digital load and are in a negative relationship with job related well-being. Research sample consisted of 183 employed people using information technologies at work, 87 men and 96 women, aged between 21 and 63 years. Participants were administered a battery of self- assessment online questionnaires via social media. Results showed that resilience, literacy facilitation, and technical support provision predicted positive job-related well-being, while negative job-related well-being was predicted by techno-overload, techno-invasion, techno-complexity, and techno-uncertainty. Resilience was found to be the only predictor that mitigated the effect of techno-stressors on positive well-being. Digital strain was predicted by techno-overload, techno-invasion, and techno-complexity, and computer self-efficacy was found to be the only significant predictor that mitigated the effect of techno-stressors on digital strain. Our findings have the potential to contribute to the creation of a better and healthier work environment, the optimization of technologic solutions, and the enhancement of employees' satisfaction and performance.

Keywords: *Techno-stressors, technostress inhibitors, resilience, computer self-efficacy, digital strain, job related well-being.*

1. Introduction

Despite the benefits that information technologies bring to its users, the present working environment is becoming stressful for employees due to increasing digitalization and fast-changing modern technologies. The Job Demand-Resources (JD-R) model (Demerouti et al., 2001) provides a framework for understanding how job demands and job resources influence employees' work engagement (e.g., stress and burnout) and motivation for higher performance. Information and Communication Technologies (ICT) can function as both job demands and job resources. If ICT is considered a job demand, they have the potential to induce technostress and have adverse effects on employees' physical and psychological well-being. If organizations present and communicate ICT as tools to enhance employees' positions, they can also serve as job resources. In this function, ICT supports technical involvement, satisfaction, and performance, as well as improving the integration of work and private life (Pansini et al., 2023). Following the JD-R model, the aim of the study was to verify the assumption that technostress inhibitors in the organization (technical support, computer literacy support, user involvement in development) acting as job resources, a high level of resilience, and computer self-efficacy (personal resources) reduce the perception of digital strain among employees and positively influence job related well-being, and technostress creators (techno-overload, techno-complexity, techno-invasion, techno-variability, techno-uncertainty) acting as job demands on the other hand increase employees' perception of technological strain and are in a negative relationship with job related well-being. The hypothetical research model is depicted in Figure 1.

2. Method

2.1. Participants and procedure

Research sample consisted of 183 employed people using information technologies at work, 87 men and 96 women, aged between 21 and 63 years. Participants were administered a battery of self- assessment questionnaires (Techno-Strain, Technostress Creators and Technostress Inhibitors, Resilience Scale, Job Affective Well-Being Scale, Computer Self-Efficacy) online via social media.

2.2. Measures

We used the Technostress Creators (23 items) and Technostress Inhibitors Scale (13 items) (Ragu-Nathan et al., 2008) to measure facilitators and inhibitors of technological stress. Respondents rated items from both inventories on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

To assess the level of individual resilience as a positive personality trait that enhances individual adaptation, we used the Slovak short version (14-item) of the Resilience Scale (Hajdúk, Mesárošová & Heretik, 2015). The items were rated on a 7-point scale (1 - strongly disagree, 7 - strongly agree).

To evaluate perceived work strain due to the use of ICT, we used a 4-item Technostrain scale (Ayyagari et al., 2011). The items were measured on a 7-point Likert scale, ranging from "never" (1) to "always" (7).

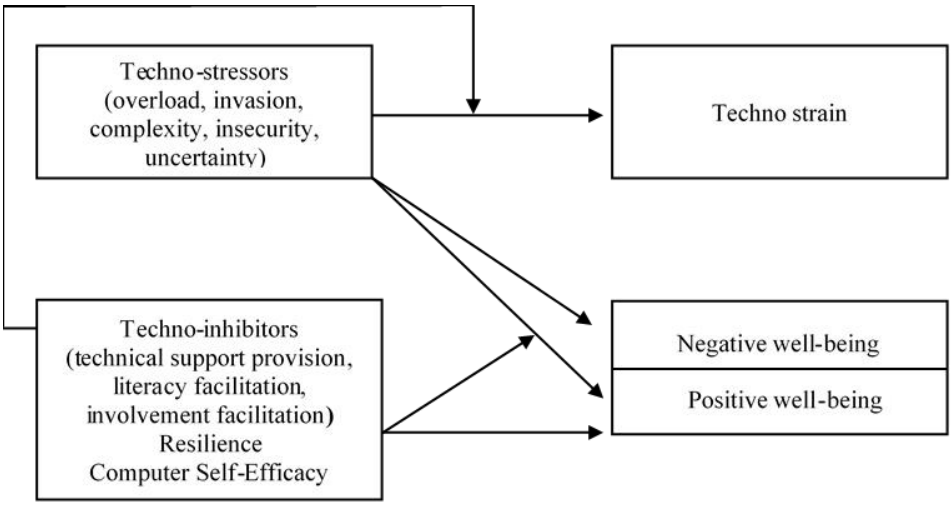
We measured positive and negative affect of respondents using a shortened version (12 items) of the Job Affective Well-Being Scale (JAWS) (Schaufeli & van Rhenen, 2006). The respondents answered on a five-point scale from "never" (1) to "very often/always" (5).

Computer self-efficacy was measured using a 12-item Computer Self-Efficacy Measure (Howard, 2014). Participants responded on a 5-point scale (1 - strongly disagree, 5 - strongly agree).

2.3. Statistical analysis

The data were analyzed using the statistical software JASP. Linear regression analyses were employed to test the hypotheses.

Figure 1. Model of the study.



3. Results

The results showed that technostressors explain 27.2% of the variance in negative affect ($R2 = 0.272$, $p < .001$); statistical significance was demonstrated by predictors of techno-overload ($\beta=0.200$, $SE=0.089$, $p=0.027$), techno-invasion ($\beta=0.209$, $SE=0.086$, $p=0.016$), techno-complexity ($\beta=0.268$, $SE=0.079$, $p= < .001$), techno-variability ($\beta=-0.196$, $SE=0.081$, $p=0.017$). For the dependent variable of positive affect, in relation to personal inhibitors, statistical significance was found with the predictor resilience ($\beta=0.121$, $SE=0.027$, $p < .001$), from organizational inhibitors, statistical significance was found for predictors of computer literacy support ($\beta=0.0246$ $SE=0.094$, $p=0.010$), and technical support ($\beta=-0.193$, $SE=0.096$, $p=0.046$), ($R2 = 0.205$, $p < .001$). Resilience proved to be significant as a protective individual factor, which was hypothesized to mitigate the effect of techno-stressors on

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job-related well-being (β=0.097, SE=0.028, p < .001). Techno-overload (β=0.266, SE=0.110, p=0.017) and techno-complexity (β=0.284, SE=0.096, p=0.004) predicted the experience of digital strain. Computer self-efficacy, as a significant personal resource, mitigated the effect of techno-stressors on digital strain (β=-0.188, SE=0.045, p < .001).

4. Discussion and conclusions

Technostress and personal inhibitors can be considered resources that help employees cope with stressors (Bakker & Demerouti, 2007). Inhibitors could play a dual role: they are positively associated with well-being and help to reduce the negative effects of technostressors on employee well-being (Ragu-Nathan et al., 2008). The results of our study partially confirmed these assumptions and demonstrated that resilience, computer literacy support, and technical support contributed to positive job related well-being, with resilience as a personal resource mitigating the negative effects of technostressors on positive well-being. In the case of digital strain, computer self-efficacy mitigated the effect of technostressors on digital strain. Organizational inhibitors in our study did not show statistical significance in relation to digital strain. Other factors or variables that we did not test in the study may play a more significant role. Some studies, for example, suggest that factors such as technology reliability (Ayyagari et al., 2011), innovation support (Tarafdar et al., 2011), or technology usefulness (Lee, 2016) can help reduce the level of technostress. In the study, we identified specific factors that negatively affect employee well-being and provide information for designing measures to minimize these risk factors. We highlighted factors that have the potential to alleviate the experience of digital strain and the impact of technostressors.

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