




Zoom Fatigue in the Age of COVID-19


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Abstract

As the COVID-19 pandemic has impacted how institutions of higher education function, colleges and universities have shifted to remote learning and now rely heavily on the use of web conferencing tools, such as Zoom, WebEx, Adobe Connect, and others. As a result, educators are increasingly experiencing the effects of Zoom fatigue. The purpose of this article is to explore the videoconferencing fatigue that has emerged during the COVID-19 pandemic. The technostress model is used as the framework to provide strategies for recognizing and addressing videoconferencing fatigue.

Keywords: *COVID-19, remote learning, technology, technostress, online education, Zoom fatigue*

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Introduction

The COVID-19 pandemic, which emerged due to rapid and widespread infection with a new coronavirus (called SARS-CoV-2), has impacted millions of people worldwide (Centers for Disease Control and Prevention, 2021). According to the World Health Organization (2020), as of January 2021, there were more than 82 million confirmed COVID-19 cases across 219 countries. COVID-19 has also significantly impacted how institutions of higher education (IHEs) operate. According to Xiao and Fan (2020), by mid-April 2020, over 190 countries implemented school/university closures, affecting 1.57 billion students. Consequently, to minimize disruption to student learning due to these closures, many IHEs began offering courses online (LeBlanc, 2020). For this purpose, most IHEs are utilizing technologies similar to those adopted for remote work (Xiao & Fan, 2020). The quick transition into online learning has accelerated changes and adjustments that were already initiated or being considered (Hardy, 2020).

Due to social distancing measures, which were put in place in many areas as a result of COVID-19, many IHEs have turned to videoconferencing tools, such as Zoom, WebEx, Blackboard Collaborate, Skype, Adobe Connect, GoToMeeting, and Microsoft Teams, for online synchronous course delivery (Sidpra et al., 2020). Videoconferencing tools serve as a means of communication that allow connected users to share video and audio content in real time. These tools also enable users to share files, slides, static images, and text through the platform being used (Al-Samarraie, 2019). There are numerous benefits of utilizing videoconferencing tools in IHEs. Videoconferencing can help shift the instructional focus of distance learning experiences to more learner-centered opportunities. It can also increase the social presence of the learning environment while allowing instructors to observe students in real time as they work on their assignments. In addition, as videoconferencing eliminates travel, it maximizes the teaching and learning output (Mader & Ming, 2015).

Although videoconferencing has yielded several benefits for IHEs during the COVID-19 pandemic, instructors and students are increasingly experiencing Zoom fatigue due to using videoconferencing tools for meetings and classes for several hours each day (Venugopal, 2020). Dr. Suzanne Degges-White, licensed counselor and professor at Northern Illinois University, reports that Zoom fatigue or videoconferencing fatigue arises when individuals spend too much time looking at computer/phone screens and manifests as emotional, psychological, and/or physical exhaustion (Leazenby, 2020). These issues are sometimes further compounded by the stress caused by COVID-19 and can impact individuals' health, as meetings through videoconferencing require increased levels of cognitive energy to stay alert enough to recognize nonverbal cues, such as body language and facial expressions that are more evident in a face-to-face conversation (Leazenby, 2020). Thus, this article aims to explore videoconferencing fatigue resulting from the COVID-19 pandemic. In addition, for the purposes of this study, the technostress model will be used as the framework to provide strategies that can be adopted to recognize and address videoconferencing fatigue.

Background

The coronavirus pandemic has forced individuals across the globe to adopt new ways of interacting, learning, and working. For many, that includes using Zoom for the first time (Lev-Ram, 2020). It is an approach that literally went from something unusual to completely mainstream overnight. Zoom's video software has surged in popularity, with millions of people being forced to stay at home to help stop the COVID-19 spread. Recently, Zoom has seen over 300 million daily meeting participants, up from a daily average of 10 million in December 2019 (Iqbal, 2021). According to Zoom CEO Eric Yuan, around 90,000 schools in 20 countries have opted for Zoom, as people worldwide have increasingly turned to the platform for everything from work meetings to happy hours (Miller, 2020). Whether we like it or not, Zoom has become a part of our daily lives, and the remote workplace has created some new habits that may not be easy to walk away from (Abbott, 2020). Along with the unprecedented surge in the use of video-based platforms, the number and length of video-based meetings have also significantly increased. This has resulted in what many describe as Zoom fatigue (Wolf, 2020).

Zoom fatigue manifests as the tiredness, worry, or burnout associated with overusing virtual communication platforms (Wolf, 2020). Other terms, such as depletion of mental or psychical capacity, arousal, inertia, etc., are frequently used to describe the subjective experience of having low to no energy. Zoom fatigue is, however, much more than a byproduct of too many meetings, as it can be induced by spending too much time at the computer (McWhirter, 2020). Social scientists present the view that Zoom fatigue is a result of the sudden mass adoption of technology that has disrupted the normal, instinctual, and finely-tuned way of communicating that has developed throughout history to help humans survive (Morris, 2020). For instance, being on a video call requires more focus than a face-to-face chat (Jiang, 2020). Video chats necessitate that we work harder to process nonverbal cues like facial expressions, the tone and pitch of voice, and the body language of other participants. As Jiang (2020) pointed out, "Our minds are together when our bodies feel

we're not. That dissonance, which causes people to have conflicting feelings, is exhausting. You cannot relax into the conversation naturally" (p. 1).

Zoom fatigue can have notable biological, psychological, and social impacts, as well. Biologically, videoconferencing is confounded by a more sedentary daily rhythm experienced during the pandemic (Puetz, 2006). Other notable biological impacts may include depletion of energy that often manifests as lack of motivation to engage in tasks that require effort and self-control. Unlike emotional exhaustion or work-related vigor, it is not a lasting state.

Typically, depletion is measured through performance on tasks that are known to require self-control, such as persistence on unsolvable anagrams, snack choice when presented with healthy versus unhealthy options, or performance on attention and cognitive-control tasks (Baumeister et al., 2007; Hagger et al., 2010). While the causes of depletion are not well understood, it is widely accepted that any technology that requires self-restraint can deplete users of energy (Du et al., 2018).

Psychologically, subjecting the external stimuli to a fundamental rewards–costs analysis may contribute to emotional exhaustion, which typically manifests as a feeling of chronic fatigue and being drained of emotional energy by one's work (Maslach et al., 2018; Maslach et al., 2001; Schaufeli et al., 2006). It is considered to be the most important and energetic aspect of chronic work-related ill-being (Maslach et al., 2001). Thus, if people are unable to recover and re-energize in their free time, emotional exhaustion is compounded, resulting in prolonged low vigor (Maslach et al., 2001; Maslach et al., 2018).

Emotional exhaustion may also be a byproduct of technology overuse and extensive online presence (Luqman et al., 2017). Socially, a perfect storm of school shutdowns, physical distancing, and loneliness is conducive to fatigue, especially for those who have little to no direct face-to-face interactions. Therefore, it is important to understand and identify key indicators of Zoom fatigue.

Zoom fatigue can be recognized by a number of markers. For instance, video calls make us communicate in different ways with prolonged eye contact, lack of body gestures, and an increased need for facial expressions while forcing us to stay in the focus of the camera (Dodge, 2020). As a result, users may experience headaches or migraines, eye irritation and pain, blurred and double vision, and excessive tearing and blinking. Other recognizable symptoms may include finding it difficult to focus during a video call and the inability to keep track of what is being discussed (Dodge, 2020). Although the factors contributing to Zoom fatigue are complicated and multidimensional, a closer examination can help address some of the outcomes (Lee, 2020).

Conceptual Framework

Over the past decade, the workplace has experienced significant changes as a result of information and communication technologies (ICTs) and the subsequent digital transformation (Matt et al., 2015). Modern ICTs have changed the work environment and culture due to the increased use of email, electronic scheduling, and video conferencing (Ragu-Nathan et al., 2008). Although the growth in ICTs has had many positive outcomes, it has also led to misuse and overuse, resulting in over 25% of the general working population complaining of lack of time and energy due to digital technology (Korunovska & Spiekermann, 2019), giving rise to the term “technostress” (Brivio et al., 2018). Empirical evidence indicates that technostress can exacerbate work overload and information fatigue (Srivastava et al., 2015) while also affecting physical health, with symptoms that include headaches, stiff shoulders, backaches, anxiety, and fatigue (Marchiori et al., 2019; Okonoda et al., 2017).

Clinical psychologist Craig Brod (1984) was the first to introduce the concept of technostress and defined it as a “disease of adaptation caused by an inability to cope with the new computer technologies in a healthy

manner” (p. 16). Weil and Rosen (1997) subsequently expanded this definition to include “any negative impact on attitudes, thoughts, behaviors, or body psychology caused directly or indirectly by technology” (p. 5). Ragu-Nathan et al. (2008) defined technostress as an “individual’s attempts to deal with constantly evolving ICTs and the changing physical, social, and cognitive responses demanded by their use” (p. 418). Tarafdar et al. (2011) described it as stress experienced by users as a result of emerging applications, multitasking, constant connectivity, information overload, frequent system upgrades, constant uncertainty, continual relearning, as well as technical problems associated with the organizational use of ICT. Other researchers have examined different aspects of this phenomenon, such as conditions that create technostress, its adverse effects on work life, and its antecedents (D’Arcy et al., 2014). Notably, La Torre et al. (2019) highlighted the marked shift in the definition of technostress from the 1980s when it referred to the inability to cope with new ICTs in a healthy manner, to the negative impact of technology on physical or mental health.

Conditions that create technostress include techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty (D’Arcy et al., 2014; Tarafdar et al., 2011). Techno-overload describes situations where the use of information systems (IS) forces professionals to change their work habits to adapt to new technologies, which often means working more and faster. On the other hand, techno-invasion refers to the intrusion of technology into every aspect of professionals’ lives, causing them to consequently feel under pressure to be constantly connected. Similarly, techno-complexity relates to the complex nature of IS, requiring professionals to dedicate time and effort to learning and understanding how to use new applications, which can be overwhelming. In some cases, this leads to techno-insecurity, as users may feel their jobs are threatened by those who have a better understanding of new IS, forcing them to constantly update their skills. Finally, techno-uncertainty arises due to continuing changes and upgrades to IS without allowing professionals a chance to develop a base of experience for a particular application or system (Tarafdar et al., 2011).

Tarafdar et al. (2011) identified seven consequences of technostress conditions, noting that they: (1) exacerbate role overload; (2) are associated with increased role conflict; (3) are linked to reduced job satisfaction; (4) decrease professionals’ innovation potential; (5) reduce productivity; (6) cause professionals to be dissatisfied with the IS they use; and (7) are associated with reduced commitment to organizational goals and values. The researchers also found that gender and computer confidence have a major influence on technostress. Interestingly, men experienced more technostress than women, while greater computer confidence decreased technostress due to greater perceived ability to handle any disruptions arising from IS use (Tarafdar et al., 2011).

Challenges Experienced

The rapid pivot to remote learning necessitated the use of video conferencing tools for real-time meetings and synchronous class sessions with students, creating multiple challenges for students and faculty alike. First, at the onset of the pandemic, many students and faculty were not familiar with the video conferencing tools that universities rolled out. With little time for training, many individuals essentially moved from being casual users to expert users of video conferencing tools. During an already stressful time, due to multiple changes as a result of the COVID-19 pandemic, this lack of preparedness increased stress levels. Second, as many students chose to return to their homes or remain at home to continue the semester, faculty and students had to navigate the challenges of various time zones for synchronous meetings (Ran, 2020; Zheng, 2020). Requiring students to actively engage in class discussions during a live session at 11:00 p.m. or 5:00 a.m. or take exams during these times is unrealistic and creates stress and fatigue.

Another challenge experienced by faculty and students, particularly those located in rural areas, is inadequate internet bandwidth for using webcams. Although the Federal Communications Commission (FCC) has set a minimum data transmission speed for broadband service that would be deemed adequate to stream video and

participate in other high-traffic online activities, those minimum speeds are still not readily available in many rural areas (Strover, 2018). According to Bullock and Colvin (2016), lack of access to the minimally accepted broadband speed can create a digital divide, which places students at a disadvantage, and instructors need to be mindful of any such limitations when creating assignments.

Finally, the increased use of video conferencing tools like Zoom has made it challenging for faculty and students to concentrate during live sessions. According to Fosslien and Duffy (2020), video calls require greater focus on conversations in order to absorb information and require everyone involved to look at the camera, leading to discomfort and tiredness.

Strategies for Addressing Zoom Fatigue

Although technostress is not a new phenomenon, COVID-19 has led to the widespread use of videoconferencing tools, giving rise to Zoom fatigue (Wolf, 2020). Specifically, as many IHEs have moved to virtual videoconferencing platforms for instruction, educators are increasingly subjected to the technostress conditions, such as techno-overload and techno-invasion. Thus, they need practical strategies for controlling their physical space and setting boundaries, and ultimately preventing and/or neutralizing Zoom fatigue. Recommendations for controlling physical space include keeping the laptop or desktop at a comfortable height, avoiding cell phone usage during Zoom sessions, setting up an external webcam instead of using the laptop/computer camera so the webcam can be moved into a comfortable position. Furthermore, making specific adjustments to the workspace, such as propping the screen up with a couple of books to create a straight line from one's face to the people on the screen, can help users see others' micro-expressions and feel more connected (Walker, 2020).

Physical space can be further controlled by incorporating regular breaks for educators and students who are not required to partake in-class activities/tasks, along with setting up and adhering to a specific start and end time (McWhirther, 2020). Walker (2020) also advises educators to dedicate a few minutes to diaphragmatic breathing before and after sessions, while also setting aside some time during sessions for relaxation exercises. Fosslien and West Durrty (2020) similarly proposed taking mini breaks during long video calls by minimizing the window, moving it behind an application, or occasionally looking away from the computer for a few seconds.

According to McWhirter (2020), educators should create boundaries by setting virtual office hours that are separate from teaching hours, physically leaving the teaching/office space once tasks are complete for the day, dressing professionally when teaching and meeting with students, and changing clothes once daily tasks are complete. Leazenby (2020) offered similar suggestions, including: (1) scheduling time to vent to friends or family; (2) changing scenery between meetings; and (3) putting away computers when finished with work or school to complete that part of the day. Fosslien and West Durrty (2020) offered additional strategies for combating Zoom fatigue, which include avoiding multitasking by closing tabs and programs that can be a distraction, reducing onscreen stimuli by encouraging students to use plain backgrounds, and using phone calls or emails for office communication when video conferencing is not necessary. McWhirter (2020) reminded educators that, although a strong desire to assist and be available to students is understandable, they must recognize the importance of personal time, family time, creative time, and the need for rejuvenation.

Recommendations

Colleges and universities have the potential to support faculty in overcoming the challenges of long-term engagement with videoconferencing tools as a result of the pandemic. This view is supported by extant

evidence indicating that school support offered to teachers predicts the technostress levels (Dong et al., 2020; Fuglseth & Sørebo, 2014; Joo et al., 2016; Tarafdar et al., 2011). Consequently, Longman (2013) argued that administrators can reduce teachers' technology stress by providing more support, guidance, and training. This can include creating a fruitful platform and check-in space to engage in discussions and exchange ideas. For instance, a classroom teaching group can be formed to give instructors an opportunity to talk about their online classroom experiences and exchange valuable tips for running successful and engaging classes.

Interaction and collaboration among teachers are also important in the integration of technology into education. Similarly, Joo et al. (2016) drew attention to the importance of institutional support and technical support, as well as social support (such as collaboration with colleagues in dealing with the stress caused by the use of technology in educational processes). This can include developing teaching groups that can serve as a support for faculty in exploring strategies for how to manage the length and time of Zoom meetings. Institutions, on the other hand, need to actively support faculty's academic efforts by providing training on how to more effectively and efficiently use video conferencing tools to reduce stress and fatigue.

Additionally, colleges and universities can create a culture of self-care and wellness for their faculty. Since faculty may experience social and psychological effects of isolation, creating an initiative to ensure that all staff members are aware of how to access psychological and social support services and resources offered through the institution can be helpful. This initiative can include ensuring that they understand how to virtually access the college or university Employee Assistance Program (EAP) resources if required to work from home.

Institutions should also implement health and well-being initiatives. Notably, since physical activity is associated with a reduced risk of fatigue (Puetz, 2006), creating a platform where faculty can share their mindfulness/meditation or exercise routines can help reduce stress and fatigue and increase wellness. Other approaches might include encouraging faculty to take regular breaks along with providing resources for all staff to incorporate health and well-being principles in their classes or training. An innovative approach can include developing a Health and Well-Being Canvas course that can be broken up into individual modules with specific thematic areas, such as Eat Well or Mind Well. As a part of each module, faculty can access a variety of readings, videos, podcasts, and apps. When health and well-being are addressed, faculty members are more productive and can more easily find satisfaction in life.

Conclusion

As institutions of higher education continue to rely on remote learning in response to the COVID-19 pandemic, instructors are becoming more likely to experience Zoom fatigue. To offset the effects of technostress, a collective response from educators and colleges, and universities as a whole, is required. For this reason, both educators and institutional administrators must work together to integrate strategies aimed at alleviating Zoom fatigue for themselves and their students (McWhirther, 2020). This also requires that IHEs provide supportive services and training to help educators adjust to the changing dynamics of the virtual classroom (Özgür, 2020). If these measures are integrated and successfully accomplished, planning and executing an educational strategy for IHEs during potential future emergencies would be less arduous for all.

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