International Journal of Education and Psychological Science (IJEPS)
Vol. 4 No. 3, 2026: 219-234

Experiencing Digital Fatigue by Different Generations of Faculty

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A R T I C L E I N F O
Keywords: Digital Fatigue, Faculty, Generations, Technostress, Higher Education

Revised: 18, April
Received: 28, April
Accepted: 31, May

A B S T R A C T
The rapid expansion of digital technologies in postsecondary education has raised concerns about digital fatigue among faculty. Guided by technostress and job demands–resources theoretical perspectives, this study examined differences in digital fatigue among baby boomer, Generation X, and millennial faculty in the United States and Canada. Using one-way analyses of variance of data collected through an anonymous online survey, statistically significant generational differences in overall digital fatigue and its various constructs were revealed, with millennials reporting significantly higher levels of digital fatigue compared to Generation X and baby boomer faculty. These findings extend existing technostress literature by demonstrating that digital fatigue among faculty varies by generational cohort despite comparable levels of technology use.

DOI: https://doi.org/10.59890/ijeps.v4i3.380
ISSN-E: 3030-8410
https://dmimultitechpublisher.my.id/index.php/ijeps

INTRODUCTION

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Technological advancement continues impacting lives and functioning of individuals drastically, with both positive and negative effects. The field of postsecondary education gained many opportunities to design and deliver educational programs online, which was especially important during the global pandemic of COVID-19, when numerous educational institutions across the globe were able to continue their operations by offering courses online instead of traditional in-person delivery. Even though in the post-pandemic era, in-person education is still the main mode of teaching, over 40% of faculty teach at least one online course, and almost a quarter of postsecondary educators use a hybrid model (Seaman & Seaman, 2024). Some educational institutions, such as the University of Kansas, are pushing toward transitioning completely to an online model due to its cost-effectiveness, greater accessibility for students and better ways to customize the content of the offered courses, among other reasons (KU Online Education Graduate Programs Blog, 2024). Thus, it is important to understand how such a transition to online teaching affects postsecondary educators and identify some of the pitfalls that might be faced on the way, especially considering the generational composition of faculty in the United States and Canada.

The majority of faculty members both in the United States and Canada belong to Generation X, along with baby boomers slowly exiting the professoraite while millennials gradually take over teaching jobs in higher education (McChesney & Bichsel, 2020; McGinn, 2023). Faculty belonging to different generations might have different levels of comfort with technology and different perceptions of its importance in one's own personal and professional life. According to Culp-Roche et al. (2020), despite adjusting just as well as millennials to extensive use of technology at work, educators belonging to older generations experience anxiety using it. At the same time, half of millennials and younger representatives of Gen X use electronic devices for communication as a primary means of social engagement and remain connected for extended periods of time, expressing greater concerns about the possibility of digital fatigue affecting them (Arbanas et al., 2023).

In this research, we investigated how digital fatigue affects different generations of postsecondary educators using the constructs of digital fatigue described and measured by Faulville et al. (2021) in their Zoom Exhaustion and Fatigue (ZEF) Scale. This might lead the way in overcoming digital fatigue as a possible factor of reduced productivity of postsecondary educators and their burnout by opening the discussion about the necessity to find strategies and techniques to reduce the impact of technology on their professional and personal experiences.

Theoretical Framework

This study is grounded in Technostress Theory and the Job Demands–Resources (JD–R) Model, which together provide a conceptual lens for understanding how prolonged digital engagement may contribute to differential experiences of fatigue among faculty across generational cohorts.

Technostress Theory

Technostress refers to the psychological strain individuals experience as a result of their inability to cope effectively with information and communication technologies (Tarafdar et al., 2015). As technology becomes increasingly embedded in professional roles, employees may experience stress responses associated with constant connectivity, accelerated work pace, information overload, and continual adaptation to evolving digital systems. In higher education, faculty are expected to engage extensively with learning management systems, videoconferencing platforms, digital assessment tools, institutional communication systems, and, more recently, artificial intelligence – supported technologies. While these tools enhance instructional flexibility and access, they also increase cognitive and emotional demands placed on educators.

Technostress theory conceptualizes technology not as inherently harmful, but as a potential stressor when technological demands exceed individuals' coping resources. These stressors may manifest in multiple psychological and behavioral outcomes, including exhaustion, reduced motivation, emotional depletion, and disengagement – symptoms that align closely with contemporary conceptualizations of digital fatigue. From this perspective, digital fatigue represents a cumulative outcome of sustained technostress exposure rather than a short-term response to isolated technological tasks.

Job Demands–Resources Model

The Job Demands-Resources (JD-R) model further supports this framework by explaining how workplace characteristics influence employee strain and motivation (Bakker & Demerouti, 2007). Job demand, such as sustained screen exposure, multitasking across platforms, rapid responsiveness expectations, and blurred work-life boundaries, require continuous psychological and cognitive effort. When such demands are not balanced by adequate job resources, including autonomy, social support, training, and recovery opportunities, employees are more likely to experience fatigue and burnout.

Within postsecondary education, digital technologies have intensified job demands while not always being accompanied by proportional increases in institutional resources. Faculty are often expected to adopt new technologies with minimal training, maintain online presence beyond standard working hours, and respond rapidly to student and administrative communications. These conditions may amplify digital fatigue even when technology use is functionally necessary.

Generational Cohorts as Contextual Moderators

Generational cohort theory provides an additional contextual layer for interpreting faculty responses to technological demands. Generations are shaped by shared historical, social, and technological conditions that influence attitudes toward work, communication, and technology use. Baby boomers, Generation X, and millennials entered the workforce during markedly different stages of digital development, potentially influencing their expectations, coping strategies, and thresholds for technological strain.

Importantly, this study does not conceptualize generations as deterministic or homogeneous groups. Rather, generational cohort membership is used as an analytical lens to examine whether shared socio-technological contexts moderate the relationship between digital job demands and fatigue outcomes. Previous research suggests that comfort with technology does not necessarily protect individuals from technostress and may, in some cases, intensify exposure through increased reliance on digital tools and constant connectivity.

Integrated Framework for the Present Study

By integrating technostress theory with the JD-R model, this study conceptualizes digital fatigue as the outcome of sustained digital job demands interacting with individual and contextual resources. Generational cohort membership is positioned as a potential moderating factor influencing how faculty perceive, internalize, and respond to these demands. This integrated framework supports the examination of multiple fatigue constructs—general, visual, social, motivational, and emotional—allowing for a more nuanced understanding of how digital fatigue manifests across faculty populations.

Using this theoretical foundation, the present study investigates whether faculty representing different generations experience distinct patterns of digital fatigue despite engaging in comparable levels of technology use, thereby contributing empirical insight to both technostress research and the evolving literature on faculty well-being in digitally intensive academic environments.

LITERATURE REVIEW

The exploration of digital fatigue impacting postsecondary educators belonging to different generations starts with the definition of postsecondary education and professional tasks and responsibilities that have to be performed by educators. It is important in order to understand what portion of faculty workload is defined by the necessity to interact with technology.

Both in the US and Canada, postsecondary education allows learners to start any educational program (including both vocational and academic curricula) in a college, university, continuing education, or life-skills program (Smith, 2023). Siege Media (2023) narrows this definition down to colleges, universities and institutes that allow individuals to obtain degrees and credentials after they complete their secondary education. Yet, both of the definitions provided reflect the major purpose of postsecondary education, both in the US and Canada: To allow various organizations across various sectors to get high-quality personnel with sufficient knowledge, skills, and competencies.

Having similar values, timeframes, and faculty ranks, the systems of postsecondary education both in the United States and in Canada face similar challenges that might impact the motivation and performance of faculty. For instance, a limited offering of tenure-track positions can negatively affect the sense of job security as well as create an unhealthy organizational climate in educational institutions due to higher competition and strained relationships between faculty members (Shakirova, 2025).

Furthermore, since the pandemic of COVID-19 and the trend of transitioning courses and programs online in the postsecondary sector, the time

spent on technology has increased significantly for educators. Based on the analysis of typical job tasks, work acitivities, and skills and knwoledge of various groups of teachers in postsecondary settings, including business instructors, social work instructors, engineering instructors, and ethics and cultural studies instructors using the job decsriptions provided on the platform O*Net Online (https://www.onetonline.org), educators must be prepared to use learning management systems and various database management systems, prepare course materials and lectures, evaluate and grade their students' work, keep up with the trends and tendencies in their industry, develop and administer exam, grade various assessment and evaluation activities and so on (O*Net OnLine, n.d.-a, n.d.-b, n.d.-c, n.d.-d). These daily tasks and responsibilities require educators to be prepared to use computers and learn technology, as it advances very fast and can become overwhelming (e.g., the development and expansion of generative artificial intelligence). Educators in the post-secondary sector need a variety of skills and techniques to be successful (including critical thinking and complex problem solving), with technology skills often being overlooked and underestimated; yet, almost three quarter s of educators define the knowledge of technology as an essential component of their success in the field (O*Net OnLine, n.d.-a, n.d.-b, n.d.-c, n.d.-d).

At the dawn of online programming in post-secondary education, Berge (1997) identified features that define the foundation of successful teaching online: student-centered learning, self-reflection, collaboration, and authentic learning. Since then, multiple studies have been conducted to define the best practices in teaching online; however, based on a meta-analysis conducted by Martin et al. (2020), less than 4% were dedicated to instructors' characteristics. Furthermore, it is essential to understand how the increased use of technology and identified exposure to the digital world can affect educators, and if their level of comfort with technology, considering the perspective introduced by Culp-Roche et al. (2020), can impact their motivation and performance.

One of the consequences related to the extensive use of technology is experiencing digital fatigue. Traditionally, fatigue is defined as "extreme and persistent tiredness, weakness or exhaustion – mental, physical or both" (Dittner (2004) as cited in Pattyn et al., 2018, para. 2). With the extensive use of technology, especially during the global pandemic of COVID-19, a new perspective on fatigue was developed; it refers to fatigue as techno stress, Zoom fatigue, digital fatigue and online fatigue (Sarangal & Nargotra, 2022). The introduction of this definition was especially relevant in the field of post-secondary education due to the necessity for many educators to switch from traditional face-to-face settings to digital classrooms. Such a transition undoubtedly impacted students, requiring them to rely on technology more and navigate the online field, and there are several research studies proving that (Peper et al., 2021; Sarangal & Nargotra, 2022; Gregersen et al., 2023). In their research on the impact extensive technological use has on students, Sarangal and Nargotra (2022) define digital fatigue as "the physical as well as psychological burden caused because of the excessive use of several complex gadgets" (p. 64).

While exploring Zoom fatigue among students, Peper et al. (2021) found that students tend to engage in multiple other activities on their devices while attending online classes. The authors also addressed some of the challenges faced by educators due to the transition to online settings: Instructors often have to multitask while teaching online, including the presentation, management of the equipment, engagement of the audience, and focusing on learning outcomes (Peper et al., 2021). This puts a lot of pressure on the instructors and might impact them negatively.

Dora et al. (2021) explored the use of technology for work and entertainment among PhD candidates and found that frequent use of smartphones for microbreaks and during regular breaks negatively affects participants' productivity and engagement. The research by Arbanas et al. (2023) demonstrates that after COVID-19, screen time increased significantly (60-80%), causing sleep disturbance and challenges with stress management.

Extensive research into Zoom fatigue was introduced by Fauville et al. (2021).

The authors specifically discussed the psychological arousal experienced by Zoom presenters due to direct focus on them during presentations and even exposure to a camera; inability to rely on nonverbal cues in digital interactions; and stiffness of the position for extended periods of time. Fauville et al. (2021) developed the Zoom Exhaustion and Fatigue (ZEF) Scale that includes survey items allowing for assessing if an individual experiences any of the five constructs of Zoom fatigue: general, visual, social, motivational, and emotional. General fatigue is described by Mota and Pimenta (2006) as "a symptom that cannot be relieved by the usual strategies of restoring energy, and that impairs, to a variable degree, the individual's ability to carry out his or her usual daily activities" (as cited in Maisel et al., 2021). Visual fatigue that often results from the popularization of electronic devices is often associated with such symptoms as blurred vision, eye soreness and dryness, and tearing; it can also negatively affect physical and mental health if not addressed properly (Duan & Yan, 2023).

Social fatigue can be described as an individual's response to overstimulation that can leave one exhausted; a person might feel "physically tired, stressed, angry, and irritable" (Orentas, 2021). Muller and Apps (2019) demonstrated that from the neurocognitive perspective, motivational fatigue can be related to the reduced willingness to exert effort into a specific task, consequently, reducing the quality of an individual's performance. Finally, emotional fatigue, also known as compassion fatigue, can cause many negative emotions, ranging from resentment to anger, and conditions, including anxiety, depression, and irrational fears, and can even lead to suicidal ideation (Stoewen, 2020).

The ZEF scale, while addressing the five components of Zoom fatigue, was adapted for the goals of this research to investigate the impact technology has on faculty represented by different generations. The test reliability is established at α=0.90, and with Cronbach's alphas above 0.8 for each construct of digital fatigue (Fauville et al., 2021). Convergent validity is established through the positive association between video conferencing, the use of the Internet, and social media platforms (Fauville et al., 2021). The participants' final scores on each construct

of digital fatigue were determined by their sum, with the higher score used as an indicator of a higher degree of digital fatigue.

Moore et al. (2022) concluded that millennials struggle the most with the necessity to manage the increased online presence and exposure to screens despite being born and raised with technology. The authors explain such a trend by the greater ability of older generations (specifically, Generation X) to be independent thinkers and their higher resilience as well as their capability not to rely on technology in every aspect of life (including work and social interactions); and yet, they still might be less comformtable with using technology, especially with the necessity to laways remain connected and require support (Moore et al., 2022).

The increased necessity to use technology for educators in higher education for the completion of their job tasks requires further exploration of the impact the prolonged exposure to screens might have on them, depending on the generation they belong to. So, in this research, we addressed the experience of three main generations representing faculty across Canada and the United States: baby boomers (aged 60-78), Generation X (aged 44-59), and millennials (aged 28-43); Generation Z (27 or younger) ramins underrepresented among faculty in both countries (McChesney & Bichsel, 2020; McGinn, 2023). The research is based on the following hypotheses:

H_0: There is no difference in experiencing different constructs of digital fatigue (general, visual, social, motivational, and emotional) among different generations of faculty.

H_1: Different constructs of digital fatigue (general, visual, social, motivational, and or emotional) are experienced differently by faculty representing different generations.

METHODOLOGY

Using the philosophy of positivism, we conducted the empirical research with the purpose of defining the relationships between the independent nominal variable of a generation to which faculty belongs and the dependent continuous variable of the construct of digital fatigue (general, visual, social, motivational, and emotional) using the ZEF Scale.

The population was represented by faculty working in postsecodnary sector in the United States and Canada, which constitutes approximately two million people based on the data provided by Higher Education Strategy Association (2024) in Canada and the National Center for Education Statistics (2024) in the United States. We ran a G-Power analysis for a two-tailed statistical test with a medium-sized effect of $f^2=0.15$, in non-probability sampling, and defined that in order to achieve the significance of 90%, we need to obtain responses from 73 participants. The inclusion criterion was employment as a teaching faculty member in postsecondary institutions within the last three years. The participants were recruited on the LinkedIn platform using the snowball sampling technique. This platform was chosen to reach out to the professional circles of educators through personal connections and networking.

The research participants were required to take an anonymous online survey that included a note of the informed consent for participation and confidentiality statement, as well as an explanation of the risks and benefits of participating in the research. The survey was created and offered to research participants on the Qualtrics platform and was set to minimize the risks of violating participants' privacy, anonymity, and confidentiality and ensure their openness and genuineness while responding to the survey items, as no identifiable information was collected. At the same time, the platform allows setting the survey in a way that prevents participants from skipping the items, with no missing data collected.

The self-assessment survey items included items addressing the demographic characteristics, such as participants' age, and conditions of employment, such as the lengths of employment in the postsecondary sector and the conditions of regularization. The participants were also asked to arbitrarily assess how much time they spend on technology for personal and professional purposes by choosing between the ranges of 1–2 hours per day, 3–5 hours per day, 6–9 hours per day, and 10 or more hours per day.

The dominating constructs of digital fatigue were determined by the ZEF scale, which has high test reliability (α=0.90) and Cronbach's alphas above 0.8 for various constructs of fatigue (Fauville et al., 2021). The scale items were modified, though, to consider digital fatigue rather than fatigue related to videoconferencing only. It was possible due to high convergent validity established through a positive association between fatigue and the use of the internet and social media platforms (Fauville et al., 2021). The participants were asked to assess their experience with various technologies using a 5-point Likert scale with options of 1 (*Not at all*), 2 (*Slightly*), 3 (*Moderately*), 4 (*Very*), and 5 (*Extremely*); for the two frequency questions, the answers included 1 (*Never*), 2 (*Rarely*), 3 (*Sometimes*), 4 (*Often*), and 5 (*Always*; Fauville et al., 2021, p. 5). The full list of the survey items can be found in Appendix A.

The hypotheses were tested using one-way ANOVA on the SPSS platform to determine the relationship between the generation of faculty and experiencing the constructs of digital fatigue, with the expectation that digital fatigue will be significantly different in various constructs among different generations of faculty. We also ran Pearson's chi-square test of associations to exclude the time spent on technology by different generations as a factor impacting faculty's experience of digital fatigue constructs.

RESULTS AND DISCUSSION

The survey was taken and fully completed by 74 participants, with over half of them being represented by Generation X and a significantly lower representation of both millennials (35%) and baby boomers (12%). By running person's Chi-square test of association on the avaliable data, we have also determined that the time spent on technology for either personal or professional use is not determined by a generation of faculty, with the chi-square value of $\chi^2(6) = 6.46$, $p = .373$ for professional use and chi-square value of $\chi^2(4) = 6.954$, $p = .138$ for personal use. Thus, we have excluded time as an impactful factor defining the

experience of digital fatigue by different generations of faculty, since they spend approximately the same amount of time on technology.

Running a series of one-way ANOVA tests in SPSS allowed the exploration of the experience of digital fatigue by different generations of faculty and rejection of the null hypothesis. The results demonstrated statistically significant differences between different generations of faculty in experiencing overall digital fatigue with F (2,71) = 8.251, p < .001 (see Table 1). A large effect size was found with η^2=0.19 for a between groups ANOVA for overall digital fatigue score.

Table 1. SPSS Output for ANOVA Table for Overall Digital Fatigue Score

	Sum of squares	*df*	Mean square	*F*	Sig.
Between groups	2532.250	2	1266.125	8.251	<.001
Within groups	10894.466	71	153.443		
Total	13426.716	73			

According to the results of a Tukey post hoc test, millennials experience a higher level of the overall digital fatigue with a mean of 45.42±11.243, p < .001 in comparison to both baby boomers (26.44±10.454, p < .001) and representatives of Generation X (37.95±13.436, p=.051).

Table 3. SPSS Output for Multiple Comparisons Table for Overall Digital Fatigue Score

Tukey HSD						
Generation (I)	Generation (J)	Mean difference (I-J)	Std. error	Sig.	90% confidence interval	
					Lower bound	Upper bound
Millennials	Gen X	7.474*	3.136	.051	.93	14.02
	Baby boomers	18.979*	4.791	<.001	8.99	28.97
Gen X	Millennials	-7.474*	3.136	.051	-14.02	-.93
	Baby boomers	11.504*	4.581	.038	1.95	21.06
Baby boomers	Millennials	-18.979*	4.791	<.001	-28.97	-8.99
	Gen X	-11.504*	4.581	.038	-21.06	-1.95
* The mean difference is significant at the 0.1 level.						

Furthermore, one-way ANOVA tests were run to explore the possibility of statistically significant differences in experiencing various constructs of digital fatigue by different generations of faculty. As a result, the following correlations were found :

- There was a statistically significant difference between groups in experiencing general fatigue between groups with F(2,71) = 13.974, p < .001, with millennials experiencing the highest levels of general fatigue, with the mean at 10.46 (Med=9).

- There was no statistically significant difference between groups in experiencing visual fatigue with $F(2,71) = .148$, $p < .862$. The means of all generations were below the median.
- There was a statistically significant difference between groups in experiencing social fatigue with $F(2,71) = 9.369$, $p < .001$. According to the results of a Tukey post hoc test, millennials' level of social fatigue is significantly higher than that of baby boomers and Generation X, with $p = .008$ and $p < .001$, respectively.
- There was a statistically significant difference between groups in experiencing motivational fatigue with $F(2,71) = 8.553$, $p < .001$, with baby boomers experiencing significantly lower levels than the other two groups, while the levels of motivational fatigue of Generation X and millennials are not significantly different ($p = .055$).
- There was a statistically significant difference between groups experiencing emotional fatigue with $F(2,71) = 10.584$, $p < .001$. Among the three groups, baby boomers have the lowest levels of emotional fatigue, with the mean at 3.67 (Med = 7.5), while millennials have the highest levels compared to Generation X and baby boomers, with $p = .033$ and $p < .001$, respectively.

Based on the statistical analysis of the collected data, different generations of faculty experience different constructs of digital fatigue, including general, social, motivational, and emotional fatigue, differently, and the null hypothesis can be partially rejected considering the same levels of visual fatigue constructs among generations. Figure 1 illustrates the difference between the means of overall digital fatigue between generations of faculty, while Appendix C demonstrates that the means of four out of five constructs of digital fatigue, including general, social, motivational, and emotional fatigue and excluding visual fatigue, were higher for millennials than for baby boomers and faculty representing Gen X.

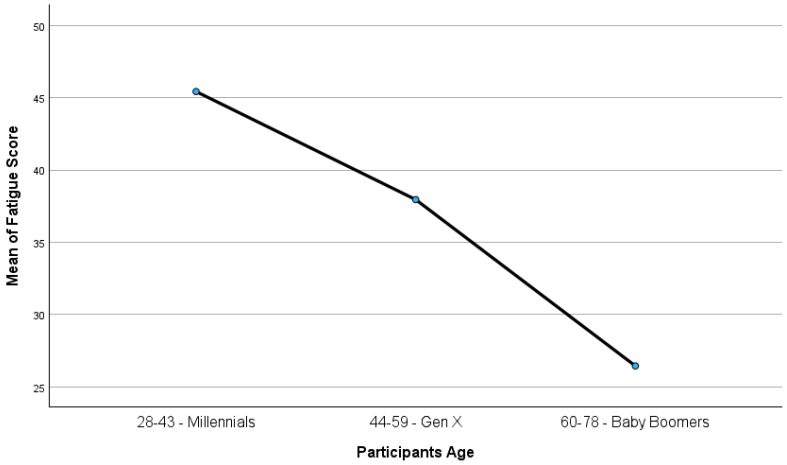

Figure 1. Mean Plot of Digital Fatigue Levels Experienced by Different Generations

Running statistical analysis on the collected data allowed the development of several research insights. In the attempt to rule out the time spent on technology as one of the factors impacting experiencing digital fatigue by

different generations of faculty, we determined that there was no significant difference between the groups, which contradicts the statements of Magnet ABA Therapy (2025) claiming that millennials spend twice as much time on technology as baby boomers and Generation X for the general population. Based on the findings of Mandernacyh and Holbech (2016), even in the pre-pandemic era, educators spent at least 53% of their time on technology to meet job requirements.

The analysis of data collected on the experiences of different generations of faculty with various constructs of digital fatigue demonstrated that millennials experience general, social, and emotional fatigue at higher levels compared to both baby boomers and Generation X, while motivational fatigue is more prevalent among both Generation X and millennials, with baby boomers being significantly less prone to it. These findings align with the experiences of digital fatigue by the general population and older generations' lower concerns about digitalization and the impact it has on them, while millennials are defined as the generation that struggles with the adverse effects of technological advancement, including digital fatigue, the most (Arbanas et al., 2023). With the lower representation of millennials in our study, it can be clearly seen that this generation is affected by various constructs of digital fatigue more than Generation X and baby boomers.

Another important aspect to consider based on the research results is that the higher level of comfort with technology typical for millennials, as determined by Culp-Roche et al. (2020), does not serve as a factor preventing the emergence and development of digital fatigue; furthermore, baby boomers who, according to Culp-Roche et al. (2020), are less comfortable with technology experience the lowest levels of various constructs of digital fatigue except of visual fatigue that is experienced by different generations of faculty similarly.

Our results prove the applicability of Moore et al.'s (2022) research findings for educators working in the postsecondary sector: Even though millennials are considered to be digital natives, they struggle to adjust to the ever-changing world of technology more than older generations. Moore et al. (2022) assume that their struggles might result from lower levels of resilience compared to baby boomers and Generation X. Yet, a more detailed analysis of the constructs of digital fatigue showed that faculty representing millennials experience social isolation more severely than older generations of educators, despite the conclusions made by Moore et al. (2022).

Therefore, the results of the study align with the technostress theory and job-demand resource model, and digital fatigue can be seen as another factor of technological overload experienced by educators due to the ongoing necessity to remain connected and process large amounts of information. Millennials, as digital natives, know how to use technology and benefit from it, but being used to constant connectivity, they might not be aware of the negative effects it has on their psychological and cognitive state or how to disconnect and live without it.
Among the important questions that can be raised based on the results of the current study is the nature of higher levels of digital fatigue experienced by millennials among faculty. Using McCrindle and Wolfinger (2010) defintion of

generations, it is possible to assume that millennials as a cohort were impacted by technology most drastically, as many of them had to learn how to live in the world of the Internet and many tehcnological wonders gaining the new levels of effectiveness and productivity, pursuing new career paths, and learning new ways of social engagement. Millennials were able to access information and find solutions much faster than older generations, and thus, they lived in a very different learning environment that might have had fewer opportunities for social interaction and emotional connections. Instead of simply following the directions given by their leaders, millennials ask questions and want to participate in decision-making that comes with a certain level of responsibility.

This can result in higher levels of general fatigue due to the abundance of information, pressure to use it properly, and finding quick solutions. Therefore, technology and digitalization serve faculty members representing millennials as a tool that often can overwhelm them, causing unwillingness (or, possibly, inability) to develop social connections and be emotionally involved in their job. It can also be a factor defining their lower levels of motivation and a contributor to their general fatigue.

Being the second most represented group among faculty, millennials need to be noticed and supported by educational institutions they work for, as eventually, they will replace the aging professoriate, but will bring higher levels of digital fatigue to their roles in education. For example, they might lack the ability to create a comfortable environment for their learners, be rigid communicators, and thus, do not comply with Yelon's principles of adult education (Berge, 1997). Educational institutions, in order to support faculty struggling wih digital fatigue, can facilitate a scope of different activities for them that will be a heathier and more productive use of their work and break time than using smarphones for microbreaks, such as in-person lunch and learn sessions, relaxation programs (such as yoga or no screen relaxation spaces), ongoing plans for social gatherings with guided and free interactions, and so on. It is important for employers in the postsecondary sector to put every reasonable effort into engaging millennials, along with other generations of faculty in these initiatives, as due to their habituation to technospace, they might be unwilling to change their environment. Introducing the notion of digital fatigue and the impact it has on them might be a strong argument to engage them more effectively.

CONCLUSIONS AND RECOMMENDATIONS

Careful consideration of the results and limitations of this study provokes discussions and the possibility of recommendations for both educators and educational institutions, as well as for researchers interested in the field and improvement of productivity and quality of life of faculty.

Millennials can often be overlooked and considered as a generation that is completely comfortable with technology, and that cannot be affected by it adversely. The research results define millennials as a group that experiences higher levels of several constructs of digital fatigue, and they need to be treated and supported accordingly. The first recommendation refers to raising awareness about digital fatigue and its adverse effects on day-to-day experiences

among educators. It is possible that millennials, as a generation that is affected by digital fatigue the most, might experience discomfort and be unable to identify its origin due to perceiving technology as an essential part of their lives. So, offering them educational sessions about digital fatigue and its consequences can create motivation for the development and implementation of proper digital hygiene, such as ergonomic workspaces.

Institutions can also equip millennials and other generations who find themselves struggling with extensive exposure to digitalization with tools and strategies to reset after prolonged hours of being in front of their screens. For example, collaborative workshops for educators of different generations can be offered to share the experiences with technology and methods to overcome its extensive use in workplace and personal settings in forms of workshops, guided discussions, and mentorship programs. This way, younger generations of educators can learn how to disconnect from the digital environment and to be more present in their personal lives, while the older generation can get skills in more effective ways to utilize technology and get more comfortable with it.

Finally, considering the importance of digital technology in modern life in general and especially in educational settings, it is essential to develop a measuring tool for the assessment of digital fatigue. Education is one of many fields that were changed and continue to be changed drastically by technology, especially with the further development of artificial intelligence, and knowing how technology affects people can be a starting point for reconsidering approaches to its incorporation into work tasks and responsibilities. So, a tool measuring digital fatigue with a greater level of reliability and validity can support individuals and organizations in preventing and overcoming digital fatigue and its consequences.

FURTHER STUDY

The conducted research has a few limitations related to sampling, a greater chance of error, generalizability of the research results, and the measuring tool. Since we decided to use an anonymous survey that ensures privacy and confidentiality of the research participants, aiming for a greater openness and genuineness in their responses to survey questions, we cannot verify if all the research participants met the inclusion criteria. To minimize the possibility of taking the survey by non-educators, we used professional networking through LinkedIn for the snowball sampling, but we were not able to verify their characteristics and relied on their willingness to genuinely contribute to our investigation of the topic. Furthermore, the confidence interval we used in 90%, which increases the possibility of error in the analysis and interpretation of the collected data.

On the other hand, using snowball sampling and reaching out to a greater variety of institutions and individuals in teaching professions rather than to a particular educational establishment allows for overcoming possible biases related to the characteristics of one specific school (such as internal policies, governmental regulations, and even a geographical location). Yet, generalizing the results might require a more careful selection of the participants, equally

representing the generations of educators, without one generation being much more represented than another. In this research, for example, baby boomers were underrepresented, which increased the possibility of an error and the necessity to consider the possibility of generalizing the results for all baby boomers employed in the postsecondary sector.

The limitations outlined above might be overcome by more careful consideration of recruitment and sampling procedures, such as using a probability sampling instead of non-probability sampling, and recruiting participants in several different institutions with different specializations (such as technical schools, sciences, arts, etc.). Such an approach will give more certainty about the characteristics of the research participants, their responsibilities and job tasks, and the institutional policies about the ergonomics and use of digital equipment.

Another limitation of this research is using the tool that was developed to assess videoconferencing experiences for the assessment of fatigue, rather than a measure that will help to collect data about the interaction with different digital devices. Fauville et al. The ZEF scale (2021) was modified to meet the goals of this study and address the research question by replacing the items referring to videoconferencing with items defining experiences with screens and digital technologies, and thus, the reliability and validity of the tool established by its authors cannot be guaranteed. However, considering the increased use of digital technology by both educators and the general population, it is essential to consider the development of the tool measuring digital fatigue and verifying its validity and reliability empirically.

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