



Digital Wellness in Higher Education: Gaps, Interventions, and Equity-Centred Future Directions

Vijay Viegas^{1*}, Joslyn Henriques², Teotone Vaz³

^{1,3}Don Bosco College, Panjim–Goa, India 403001

^{1*}vijayviegas@donboscogoa.ac.in

²DCT's Dhempe College (Autonomous), Miramar-Goa, India 403001

Abstract

The rapid expansion of digital technologies within the higher education system has shaped pedagogical practices, institutional functioning, and communication patterns. While technology has enabled flexibility, accessibility, and innovation, it has also introduced complex challenges for the well-being of students and faculty. This systematic review synthesized contemporary research on digital wellness, with a focus on technostress, burnout, algorithmic influences, and the effectiveness of intervention strategies within higher education. Guided by PRISMA principles, a total of seventy-eight peer-reviewed studies published between the years 2015 and 2025 were reviewed. Across the studies reviewed, persistent connectivity emerged as one of the most frequently reported contributors to technostress. Numerous studies also linked notification overload, expectations to be constantly responsive, and curated engagement that is algorithmically driven with poor sleep quality, increased stress levels, and symptoms of burnout among students and faculty.

Digital interventions, particularly mindfulness-based and app-supported approaches, were found to offer moderate short-term benefits but lacked long-term sustainability and inclusivity across diverse populations. The review further reveals critical gaps in present research, particularly the limited use of longitudinal designs, intersectional analysis, and insufficient scrutiny of algorithmic influences on digital engagement. To address the gaps identified in the literature, future research should adopt longitudinal approaches, incorporate user participation in intervention development, and explore ways of creating more equitable digital ecosystems within higher education settings.

Keywords: Digital Wellness, Technostress, Higher Education, Burnout, Algorithmic Engagement, Equity

1 Introduction

Digital technologies have become an indispensable part of higher education, impacting the way teaching, learning, and academic engagement take place. The widespread use

of learning management systems (LMS), artificial intelligence (AI)- driven tools, and mobile applications has improved access to educational resources and created more flexible learning environments. However, at the same time, increasing reliance on digital technologies may have unintended consequences for the psychological well-being of students as well as educators.

Digital well-being is defined as a subjective individual experience of achieving an optimal balance between the benefits and drawbacks associated with digital connectivity (Reinecke et al., 2021). In practical terms, this involves engaging with technology in a healthy and balanced manner, a concept commonly referred to as digital wellness. In higher education, achieving such a balance can be challenging due to constant connectivity, increasing digital workloads, and the expectation of constant availability. These factors often contribute to technostress, which is defined as the struggle to deal with the demands associated with information and communication technology (Tarafdar et al., 2019; Ayyagari et al., 2011).

Recent research has further highlighted digital stress as a multifaceted phenomenon stemming from factors such as continuous connectivity, technological disruptions, and information overload. These challenges can significantly affect both well-being and academic performance (Riedl et al., 2023). Recognizing these concerns, global policy bodies have emphasized the need for education institutions to ensure that digital transformation is accompanied by facilities that support the well-being of students, promote equitable access, and foster sustainable engagement with technology. For example, international data shows that while digital technologies improve learning chances, they can also lead to distractions, cognitive overload, and unequal access to resources (OECD, 2023). Moreover, global health perspectives highlight that digital environments are increasingly influencing mental health outcomes, calling for integrated approaches that tackle both technology and social factors affecting well-being (WHO, 2022).

Cross-cultural studies show that long exposure to digital environments causes psychological strain for both students and faculty, with variations influenced by institutional and cultural contexts (Cazan et al., 2024). New research also points out that technostress is not just an individual issue; it is shaped by broader systemic and organizational factors, including training, technology infrastructure, and institutional expectations (Vega-Muñoz et al., 2025). Additionally, current studies stress the importance of validated tools to measure digital stress in higher education, emphasizing the growing complexity of digital well-being as a research area (Araya-Ugarte et al., 2025).

Evidence shows that too much digital engagement is linked to burnout, lower academic performance, and poor well-being (Salanova et al., 2013; Schaufeli et al., 2002). Students struggle with multitasking, divided attention, and distractions from social media, while faculty face pressures related to online teaching, heavy workloads, and communication expectations. Increasing reliance on mobile devices worsens these issues, mixing academic and personal life (Derks & Bakker, 2014).

A critical but often ignored aspect of digital wellness is how algorithms are designed. Features like notifications, endless scrolling, and personalised content have been increasingly used on digital platforms to maximize engagement. Although these features improve accessibility and user experience, they often encourage excessive usage and reduce the individual's capacity for self-regulation (Alter, 2017; Montag et al., 2021). Within educational settings, prolonged exposure to such designs that are engagement-driven can contribute to cognitive overload, distraction, and heightened levels of stress.

Concerns surrounding digital wellness are further intensified by issues of equity and digital inequality. Student populations vary with respect to their access to technology, digital skills, and institutional support. Students from rural areas, first-generation learners, and those from low socio-economic groups often encounter additional challenges, leading to unequal digital learning experiences and greater vulnerability to digital stress (Robinson et al., 2015; Van Dijk, 2020).

Despite an increase in research in the area of digital wellness, several important gaps remain unaddressed. Much of the existing research relies on cross-sectional designs, thus limiting the understanding of the development of digital stress and the changes associated with it over time. In addition, the influence of algorithmic systems within educational technology has received limited attention. Current intervention strategies tend to adopt a common approach and hence often do not meet the diverse needs of users, thereby limiting their effectiveness for diverse user groups. Further, very few studies have examined digital wellness through an intersectional lens, thus leaving important socio-demographic differences unexplored.

The present systematic review aims to fill these gaps by gathering evidence from multiple disciplines. The review specifically aims:

1. To identify key sources of digital stress and their psychological consequences.
2. To examine the role of algorithmic and institutional factors that shape digital wellness.
3. To evaluate the effectiveness and inclusivity of present digital interventions.

By integrating research on technostress, algorithmic influences, and issues of equity, the present review offers a wide socio-technical perspective on digital wellness, hence contributing to a more nuanced understanding of the factors influencing well-being in academic environments that are increasingly digital.

2. Research Methods

2.1 Research Design

The present study adopted a systematic review design to synthesize existing evidence on digital wellness in higher education. The systematic review method was selected to ascertain a structured, transparent, and reproducible examination of research studies on digital stressors, their behavioral and psychological outcomes, and the effectiveness of current intervention strategies. The review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, which offer a standardized framework for identifying, screening, and reporting relevant stud-

ies. This systematic method, unlike traditional narrative reviews, enables a more rigorous evaluation of literature by reducing selection bias through the utilization of predefined inclusion and exclusion criteria, organized search strategies, and systematic data extraction processes, thus enhancing the transparency and reliability of the review process.

2.2 Search Strategy

Studies relevant to digital wellness in higher education were identified using a comprehensive literature search across several electronic databases, which included Scopus, ERIC (Education Resources Information Center), PubMed, and IEEE Xplore. Taking into consideration the multidisciplinary nature of digital wellness, these databases were chosen to ensure broad coverage of research across the disciplines of psychology, education, and information systems research. A mix of keywords and Boolean operators was used to gather as many relevant studies as possible: (“digital wellness” OR “digital well-being” OR “technostress” OR “digital stress”) AND (“higher education” OR “university students” OR “faculty”) AND (“burnout” OR “mental health” OR “sleep” OR “well-being”) AND (“intervention” OR “digital intervention” OR “mindfulness” OR “app-based”). Truncation and wildcard operators were applied where necessary to capture variations of keywords.

The literature search was conducted with clearly defined limits to ensure relevance and quality of the included studies. Only articles published between 2015 and 2025 were considered, allowing the review to capture the most recent developments in digital wellness and technology use in higher education. The search was restricted to studies published in the English language to ensure consistency in interpretation and analysis. Additionally, only peer-reviewed journal articles were included to maintain high standards of academic rigor and reliability, while excluding conference abstracts, editorials, and non-peer-reviewed sources.

2.3 Inclusion and Exclusion Criteria

To ensure studies were relevant and of high quality, we screened the studies based on predefined criteria.

Studies were included if they:

1. Focused on higher education populations (students, faculty, or both)
2. Examined digital technology use and psychological or behavioral outcomes
3. Reported empirical findings (quantitative, qualitative, or mixed-methods)
4. Addressed at least one of the following:
 - o Technostress or digital stress
 - o Burnout or mental health outcomes
 - o Digital interventions or coping strategies
 - o Digital behavior or platform engagement
5. Were published in peer-reviewed journals

Studies were excluded if they:

1. Focused only on K–12 populations
2. Were conceptual, opinion-based, or editorial articles without empirical data
3. Addressed general technology use without psychological outcomes
4. Were conference abstracts without full papers
5. Were not available in English

2.4 Screening and Selection Process

The selection process for studies followed PRISMA guidelines and occurred in four stages:

Stage 1: Identification - A total of 312 records were found across databases.

Stage 2: Duplicate Removal - After removing duplicates, 276 unique records remained.

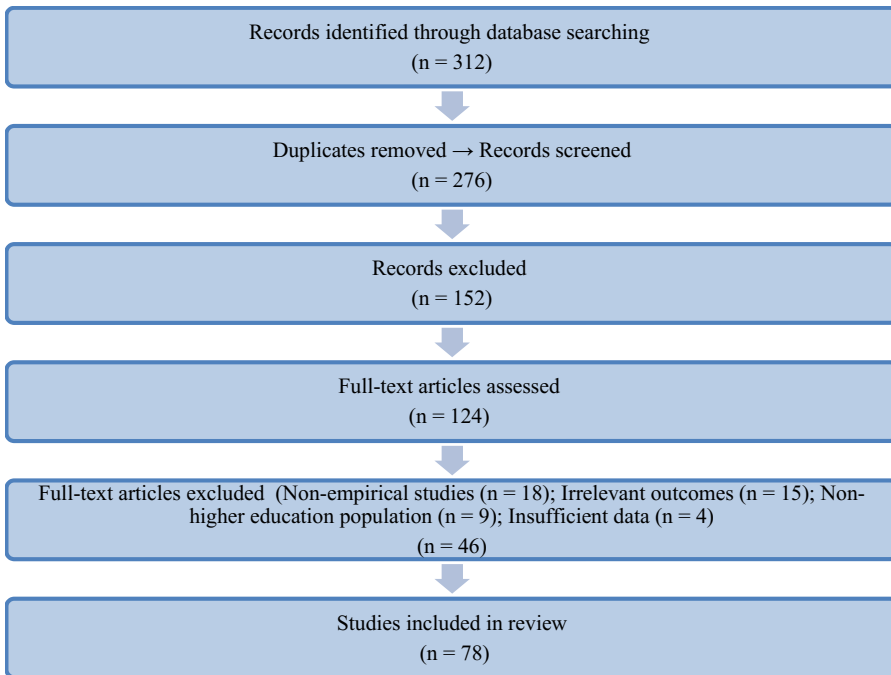
Stage 3: Title and Abstract Screening - Titles and abstracts were checked for relevance, resulting in 124 studies selected for full-text review.

Stage 4: Full-Text Screening - Full-text articles were assessed against inclusion criteria. Of the 124 articles evaluated for full-text eligibility, 46 were excluded due to

reasons like a lack of relevant outcomes, non-empirical design, or population mismatch. In total, 78 studies were included in the final analysis. Reasons for exclusion included: non-empirical design ($n = 18$), irrelevant outcomes ($n = 15$), non-higher education populations ($n = 9$), and insufficient data ($n = 4$). During title and abstract screening, 152 records were excluded since they lacked relevance.

Even though the review followed PRISMA guidelines, the protocol was not preregistered in PROSPERO, which is recognized as a limitation. A subset of articles (20%) was independently screened by both authors, and the agreement between them was high (Cohen's $\kappa = 0.82$), showing strong consistency.

Figure 1. PRISMA flow diagram of study selection process



2.5 Data Extraction

A structured data extraction framework was developed to systematically capture key information from each study. The following variables were extracted:

- Author(s) and year
- Study location
- Sample characteristics (students/faculty, sample size)
- Research design (cross-sectional, longitudinal, experimental)
- Key variables (e.g., technostress, burnout, sleep quality)
- Measurement tools used (e.g., MBI, PSQI, K6)
- Intervention type (if applicable)
- Key findings

Data extraction was conducted manually and cross-verified to ensure accuracy.

2.6 Quality Assessment

To ensure the methodological quality of included studies, a critical appraisal process was conducted using established criteria adapted from:

- Mixed Methods Appraisal Tool (MMAT)
- Joanna Briggs Institute (JBI) checklists

Studies were evaluated based on:

- Clarity of research objectives
- Appropriateness of study design
- Validity and reliability of measurement tools
- Sample adequacy
- Transparency of analysis

Studies were not excluded based on quality alone; however, quality ratings informed the interpretation of findings. Studies were categorized as high, moderate, or low quality based on appraisal criteria. Most studies were of moderate quality, with common limitations including cross-sectional designs and self-reported measures.

2.7 Data Synthesis

A thematic synthesis approach was used to analyse the extracted data. This involved:

Step 1: Initial Coding

Key findings from each study were coded into conceptual categories.

Step 2: Theme Development

Codes were grouped into broader themes, including:

- Digital stressors
- Burnout and psychological outcomes
- Digital interventions
- Algorithmic and behavioural influences
- Equity and access disparities

Step 3: Cross-Study Comparison

Findings were compared across studies to identify patterns, consistencies, and divergences.

2.8 Addressing Bias

Several strategies were employed to minimise bias:

- Use of multiple databases to ensure comprehensive coverage
- Clearly defined inclusion/exclusion criteria
- Independent screening of a subset of studies
- Inclusion of diverse study designs

3. Results (Thematic Synthesis)

3.1 Digital Stressors and Technostress

Digital stress in higher education often comes from information overload, multitasking, and constant connectivity. Recent research views digital stress as a growing issue that depends on context, linked to ongoing exposure to technology and related demands (Riedl et al., 2023; Tarafdar et al., 2019; Ragu-Nathan et al., 2008).

Students often use multiple platforms at the same time, which can reduce concentration and increase anxiety (Junco, 2012). Faculty face similar pressures due to digital teaching demands and administrative tasks. These stressors fit within the job demands-resources model, where excessive demands without enough support can lead to burnout (Bakker & Demerouti, 2007).

Recent research studies reveal that technostress is particularly pronounced in environments that are characterized by high digital demands and limited or no institutional support. Research in higher education shows that factors like inadequate training, constant system updates, and the absence of organizational policies have been associated with increased anxiety and cognitive overload for users (Vega-Muñoz et al., 2025). Evidence from cross-cultural studies further indicates that the amount of time individuals spend online and the manner in which they engage with digital technology are linked to higher levels of technostress and lower well-being (Cazan et al., 2024).

3.2 Burnout and Psychological Outcomes

Burnout is another major result of continuous digital engagement, which is seen as emotional exhaustion, cynicism, and decreased effectiveness (Schaufeli et al., 2002). Increasing digital workloads, constant connectivity, and technology-related demands within higher education have been linked to higher levels of burnout among both students and faculty members (Salmela-Aro & Upadyaya, 2014; Wang et al., 2020).

Another serious consequence of continuous digital engagement is on sleep. The usage of devices late at night and the constant interruption by notifications disturb sleep patterns, which could lead to fatigue and lower academic performance (Cain & Gradisar, 2010; Levenson et al., 2017). Recent evidence suggests that burnout serves as a bridge between technostress and overall mental well-being, highlighting indirect ways that digital overload affects psychological outcomes (TechSoc study, 2025).

3.3 Digital Interventions and Well-being

Digital interventions, especially mobile-based mental health apps, have become increasingly popular. Recent evidence shows these interventions can help in the reduction of stress and can enhance well-being (Flett et al., 2019; Linardon et al., 2019).

Mindfulness-based interventions have also shown positive results for emotional regulation and stress reduction (Kabat-Zinn, 2003; Howells et al., 2016). However, these interventions have numerous challenges, which include high dropout rates, limited personalization, and short-term effects. Interventions that are internet-based have revealed promising results, but these also need better engagement strategies and more support from institutions (Harrer et al., 2019; Donker et al., 2013).

3.4 Algorithmic Design and Digital Behaviour

Digital user behavior is significantly shaped by algorithmic system features such as notifications and personalized content, which boost engagement. However, this algorithmic design leads to compulsive usage patterns (Alter, 2017; Montag et al., 2021). These systems commonly lack transparency, thus making it hard for users to comprehend the way in which their behavior is influenced; hence, this lack of understanding lowers autonomy and contributes to frustration (Long & Magerko, 2020).

3.5 Digital Communication and Boundary Erosion

Digital communication norms have a great impact on well-being. The lines between work and personal life are being blurred by the expectation of always being available (Mazmanian et al., 2013). People feel that they must respond right away to digital messages, and this workplace telepressure increases the levels of stress (Barber & Santuzzi, 2015). Further, the use of smartphones connects directly to work-home interference and burnout (Derks & Bakker, 2014).

3.6 Equity and Digital Inequality

Structural inequalities that include access to technology, digital skills, and institutional support vary widely among different groups, thus impacting digital access (Robinson et al., 2015). Students from rural and low-income backgrounds experience greater stress

due to fewer resources and gaps in digital literacy (Van Dijk, 2020). These differences highlight the need for fair interventions.

From a policy standpoint, digital inequality is a major barrier to achieving equal educational outcomes. International reports stress that having reliable infrastructure, digital skills, and institutional support is essential for effective digital learning environments (OECD, 2023). Without these, digital transformation may reinforce existing socio-economic disparities instead of addressing them.

4. Discussion

Findings from this review highlight the multifaceted relationship between technology, behavior, and well-being. Digital stress is experienced not just by individual patterns of technology use but also by expectations by institutions, the design of digital platforms, and socio-economic conditions. The findings extend the traditional understandings of technostress beyond individual levels of explanation by including the effects of algorithms and considerations of issues related to equity. The findings suggest that the improvement of digital wellness requires a multi-level approach. At the individual level, digital literacy training and mindfulness-based practices could help users manage challenges related to technology more effectively. At the institutional level, digital stress could be overcome by clear communication guidelines, setting realistic expectations regarding availability, and appropriate workload management. Additionally, developers of technology have an imperative role to play by designing digital systems that are transparent, ethical, and that ensure user well-being.

The insights from this review are consistent with global policy frameworks that highlight the importance of creating digital environments that are balanced and user-friendly. The OECD has highlighted that digital transformation in education requires not just the integration of technology but also governance that promotes well-being, equity, and responsible use of data (OECD, 2023). Likewise, global health perspectives have increasingly recognized digital environments as key determinants of mental health

and well-being. Hence, there is a growing need to design digital systems that reduce potential harm while promoting healthy and meaningful engagement with technology (WHO, 2022).

Recent research has highlighted the systemic nature of digital stress, revealing that technostress arises from a complex interaction between individual capabilities, technological environments, and different institutional contexts. Evidence indicates that factors such as organizational support, digital culture, and access to resources significantly shape the connection between how individuals experience and respond to digital demands, which ultimately influence their well-being outcomes (Araya-Ugarte et al., 2025; Vega-Muñoz et al., 2025). These findings suggest that digital wellness cannot be viewed solely as individual responsibility; rather, it needs to be viewed as a social and technical issue that requires coordinated efforts from individuals, educational institutions, and technology providers.

4.1 A Socio-Technical Model of Digital Wellness in Higher Education

A socio-technical model of digital wellness in higher education is proposed based on the findings of this review. This model conceptualizes digital wellness as an outcome of interacting factors that operate across three interconnected areas:

Drawing on the findings of this review, a socio-technical model of digital wellness in higher education is proposed. The model conceptualizes digital wellness as an outcome of the interaction between factors operating across three interconnected domains:

1. Technological Factors - These include platform design, algorithm features, notification systems, and usability. Algorithm-driven engagement and system complexity are major contributors to digital overload and compulsive use.

2. Individual Factors - These consist of digital literacy, self-regulation, coping strategies, and psychological resilience. How users perceive and respond to digital demands depends on their individual differences.

3. Institutional Factors - These involve organizational policies, communication practices, workload expectations, and access to digital tools and training. Digital stressors have been affected by institutional contexts.

The socio-technical model suggests that technostress arises from an imbalance between digital demands from the institution and technology usage and from available individual and organizational resources, thereby extending the Job Demands-Resources framework into digital settings. Further, burnout is viewed as a mediating outcome that links technostress to wider indicators of well-being like mental health, academic performance, and overall life satisfaction.

Equity emerges as a central theme that shapes all three domains of the model. Differences in access to technology, differing levels of digital skills, and socio-economic backgrounds can influence both individuals' exposure to digital stressors and their ability to cope with them. The proposed model enhances existing literature by taking into consideration algorithmic factors, institutional contexts, and equity issues in one unified perspective, thereby offering a deeper understanding of digital wellness in higher education. The model also provides a useful framework for designing interventions that not only target individual behavior change but also address the broader technological and organizational factors that lead to digital stress and thereby affect well-being. Importantly, the model includes feedback loops where negative outcomes, including burnout and disengagement, that can affect future technology use and institutional responses, thus making digital wellness a changing and developing process.

5. Limitations

This is based on published literature and hence could be influenced by possible publication bias and differences in the measurement tools utilized. Further, generalizability is restricted by the dominance of Western samples. Also, the dearth of meta-analytic studies limits the ability to quantify effect sizes across studies.

6. Conclusion

Digital wellness is a significant issue in higher education which requires multifaceted and fair approaches. Future research needs to focus on longitudinal studies, interventions, and accountability for algorithms to promote effective well-being in digital academic settings. The socio-technical model that has been proposed sets the groundwork for future empirical research and offers a framework for creating digital wellness interventions in higher education that are scalable and equity-oriented.

Acknowledgments. The authors express their sincere gratitude to Don Bosco College, Panjim-Goa, and DCT's Dhempe College (Autonomous), Miramar-Goa, for providing an enabling academic environment and access to scholarly resources that supported the completion of this study. The authors also acknowledge the contributions of researchers and scholars whose work on digital wellness, technostress, burnout, digital equity, and higher education formed the foundation of this systematic review.

The authors are grateful to colleagues and academic peers who provided valuable feedback during the development of the manuscript. Their insights contributed significantly to refining the conceptual and methodological aspects of this review.

Disclosure of Interests. The authors declare that they have no known competing financial interests, personal relationships, or affiliations that could have appeared to influence the work reported in this paper.

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

1. Alter, A.: *Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked*. Penguin Press, New York (2017)
2. Araya-Ugarte, G., Armesto-Céspedes, M., Contreras-Barraza, N., Vega-Muñoz, A., Salazar-Sepúlveda, G.: Contextual study of technostress in higher education: Psychometric evidence for the TS4US scale. *Sustainability* 17(15), 6974 (2025)
3. Author(s) et al.: Mental wellbeing in digital workplaces: The role of digital resources, technostress, and burnout. *Technology in Society* 81, 102844 (2025)
4. Ayyagari, R., Grover, V., Purvis, R.: Technostress: Technological antecedents and implications. *MIS Quarterly* 35(4), 831–858 (2011)
5. Bakker, A.B., Demerouti, E.: The job demands–resources model. *Journal of Managerial Psychology* 22(3), 309–328 (2007)
6. Barber, L.K., Santuzzi, A.M.: Please respond ASAP: Workplace telepressure. *Journal of Occupational Health Psychology* 20(2), 172–189 (2015)
7. Bond, M., Bedenlier, S., Marín, V.I., Händel, M.: Emergency remote teaching in higher education: Mapping the first global online semester. *Educational Technology Research and Development* 68, 101–113 (2020)
8. Buysse, D.J., Reynolds, C.F., Monk, T.H., Berman, S.R., Kupfer, D.J.: The Pittsburgh Sleep Quality Index: A new instrument for psychiatric practice and research. *Psychiatry Research* 28(2), 193–213 (1989)

9. Cain, N., Gradisar, M. Electronic media use and sleep in school-aged children and adolescents: A review. *Sleep Medicine*, 11(8), 735–742 (2010).
10. Cazan, A.-M., et al.: Technostress and time spent online: A cross-cultural comparison for teachers and students. *Frontiers in Psychology* 15, 1377200 (2024)
11. Derks, D., Bakker, A.B.: Smartphone use, work–home interference, and burnout. *Journal of Occupational Health Psychology* 19(1), 74–85 (2014)
12. Diener, E., Oishi, S., Tay, L.: Advances in subjective well-being research. *Nature Human Behaviour* 2, 253–260 (2018)
13. Donker, T., Petrie, K., Proudfoot, J., Clarke, J., Birch, M.R., Christensen, H.: Smartphones for smarter delivery of mental health programs. *Journal of Medical Internet Research* 15(11), e247 (2013)
14. Flett, J.A.M., Hayne, H., Riordan, B.C., Thompson, L.M., Conner, T.S.: Mobile mindfulness meditation: A randomised controlled trial of the effect of two popular apps on mental health. *Frontiers in Psychiatry* 10, 1–14 (2019)
15. Harrer, M., Adam, S.H., Baumeister, H., et al.: Internet interventions for mental health in university students. *International Journal of Methods in Psychiatric Research* 28(2), e1759 (2019)
16. Howells, A., Ivtzan, I., Eiroa-Orosa, F.J.: Putting the ‘app’ in happiness: A randomised controlled trial of a smartphone-based mindfulness intervention. *Journal of American College Health* 64(6), 494–502 (2016)
17. Junco, R.: Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior* 28(1), 187–198 (2012)
18. Kabat-Zinn, J.: Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice* 10(2), 144–156 (2003)
19. Kessler, R.C., Barker, P.R., Colpe, L.J., Epstein, J.F., Gfroerer, J.C., Hiripi, E., Howes, M.J., Normand, S.L.T., Manderscheid, R.W., Walters, E.E., Zaslavsky, A.M.: Screening for serious mental illness in the general population. *Archives of General Psychiatry* 60(2), 184–189 (2003)
20. Kuss, D.J., Griffiths, M.D.: Social networking sites and addiction: Ten lessons learned. *International Journal of Environmental Research and Public Health* 14(3), 311 (2017).
21. Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. The association between social media use and sleep disturbance among young adults. *Preventive Medicine*, 85, 36–41 (2017).
22. Linardon, J., Cuijpers, P., Carlbring, P., Messer, M., Fuller-Tyszkiewicz, M.: The efficacy of app-supported smartphone interventions for mental health problems: A meta-analysis of randomized controlled trials. *World Psychiatry* 18(3), 325–336 (2019)
23. Long, D., Magerko, B.: What is AI literacy? Competencies and design considerations. In: *Proceedings of the CHI Conference on Human Factors in Computing Systems*, pp. 1–16 (2020)
24. Luckin, R., Holmes, W., Griffiths, M., Forcier, L.B.: *Intelligence Unleashed: An Argument for AI in Education*. Pearson, London (2016)
25. Maslach, C., Jackson, S.E., Leiter, M.P.: *Maslach Burnout Inventory Manual*. 3rd edn. Consulting Psychologists Press, Palo Alto (1996)
26. Mazmanian, M., Orlikowski, W.J., Yates, J.: The autonomy paradox: The implications of mobile email devices for knowledge professionals. *Organization Science* 24(5), 1337–1357 (2013)

27. Montag, C., Wegmann, E., Sariyska, R., Demetrovics, Z., Brand, M.: How to overcome taxonomical problems in the study of Internet use disorders. *Journal of Behavioral Addictions* 10(1), 151–165 (2021)
28. Newport, C.: *Digital Minimalism*. Penguin, New York (2019)
29. Ng, W., Leung, J.K.L., Chu, S.K.W., Qiao, M.S.: Conceptualizing AI literacy: An exploratory review. *Computers and Education: Artificial Intelligence* 2, 100041 (2021)
30. OECD: *OECD Digital Education Outlook 2023: Towards an Effective Digital Education Ecosystem*. OECD Publishing, Paris (2023)
29. Ragu-Nathan, T.S., Tarafdar, M., Ragu-Nathan, B.S., Tu, Q.: The consequences of technostress for end users. *Information Systems Research* 19(4), 417–433 (2008)
30. Reinecke, L., Aufenanger, S., Beutel, M. E., Dreier, M., Quiring, O., Stark, B., Wölfling, K., Müller, K. W. Digital wellbeing as a dynamic construct. *Communication Theory*, 31(4), 932–955 (2021)
31. Riedl, R., Fischer, T., Reuter, M.: Measuring digital stress in the workplace context: Development of a short version of the Digital Stressors Scale (DSS). *Informatik Spektrum* 46, 235–239 (2023)
32. Robinson, L., Cotten, S.R., Ono, H., Quan-Haase, A., Mesch, G., Chen, W., Schulz, J., Hale, T.M., Stern, M.J.: Digital inequalities and why they matter. *Information, Communication & Society* 18(5), 569–582 (2015)
33. Rosen, L.D., Lim, A.F., Felt, J., Carrier, L.M., Cheever, N.A., Lara-Ruiz, J.M., Mendoza, J.S., Rokkum, J.: Media and technology use predicts ill-being among children, preteens, and teenagers. *Computers in Human Behavior* 35, 364–375 (2014)
34. Salanova, M., Llorens, S., Cifre, E.: The dark side of technologies: Technostress among users of information and communication technologies. *International Journal of Psychology* 48(3), 422–436 (2013)
35. Salmela-Aro, K., Upadyaya, K. School burnout and engagement in the context of demands-resources model. *British Journal of Educational Psychology*, 84(1), 137–151 (2014)
36. Schaufeli, W.B., Martínez, I.M., Pinto, A.M., Salanova, M., Bakker, A.B.: Burnout and engagement in university students. *Journal of Cross-Cultural Psychology* 33(5), 464–481 (2002)
37. Selwyn, N.: *Education and Technology: Key Issues and Debates*. 2nd edn. Bloomsbury Academic, London (2016)
38. Tarafdar, M., Cooper, C.L., Stich, J.F.: The technostress trifecta—Techno eustress, techno distress and design: Theoretical directions and an agenda for research. *Information Systems Journal* 29(1), 6–42 (2019)
39. van Dijk, J.: *The Digital Divide*. Polity Press, Cambridge (2020)
40. Vega-Muñoz, A., Boada-Grau, J., Sora, B., Salas-Guzmán, N., Contreras-Barraza, N.: Educational technostress in Andean South America: Regional evidence shaping digital wellbeing agenda for young adults. *Frontiers in Public Health* (2025)
41. Wang, X., Li, B.: Technostress among university teachers in higher education: A study using multidimensional person–environment misfit theory. *Frontiers in Psychology* 10, 1791 (2019)
42. Wang, X., Tan, S. C., Li, L. Measuring university students' technostress in technology-enhanced learning: Scale development and validation. *Australasian Journal of Educational Technology*, 36(4), 96–112 (2020).
43. Wang, X., Shu, Q., Tu, Q.: Technostress in university students' technology-enhanced learning: An investigation from multidimensional person–environment misfit. *Computers in Human Behavior* 105, 106208 (2020)

44. World Health Organization: Global Strategy on Digital Health 2020–2025: Implications for Mental Health and Digital Environments. World Health Organization, Geneva (2022)
45. Zuboff, S.: The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power. Profile Books, London (2019)

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

