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# Sustainable Human Resource Management Practices and Digital Well-Being in Online Education: A Systematic Review of Faculty Experiences and Teaching Effectiveness

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***Abstract***

***Background:*** *With the introduction of online learning in post-pandemic times, there is a shift in pedagogical practices within universities. Faculty members are likely to be exposed to issues of digital well-being, technostress, burnout, and work-life balance that will influence their teaching effectiveness. The idea of sustainable human resource management practices provides a theoretical approach that would help sustain faculty members' well-being without compromising the quality of education. In this systematic review, the effect of sustainable human resource management practices on the digital well-being of faculties in online learning settings is assessed.*

***Methods:*** *Following PRISMA guidelines, we have searched five electronic databases (Semantic Scholar, PubMed, OpenAlex, arXiv, and ClinicalTrials) using search strategies. Those studies were included which examined online education systems, faculty or teaching workforce, sustainable HRM practices, digital well-being indicators, or teaching effectiveness outcomes. Empirical studies with data collection and analysis were eligible. Risk of bias was assessed for each included study and certainty of evidence was evaluated using the GRADE approach.*

***Results:*** *There were thirty-seven studies used as references in the research, involving up to one thousand and as few as two hundred and three participants from different geographical areas and educational environments. The findings suggest that there is moderate certainty of evidence about the impact of technostress and work-life balance difficulties on faculty wellbeing in an online setting. There is moderate certainty evidence related to professional development activities and support interventions aimed at improving faculty skills and reducing their stress levels.*

***Conclusions:*** *HRM strategies like professional development, technical support, and work-life balance have a direct connection to faculty digital wellness when delivering education via online mode. The universities need to focus on these supportive mechanisms but should also understand the need for more empirical research concerning the connection between faculty well-being and teaching success.*

***Keywords:*** *Sustainable Human Resource Management (SHRM), Digital Well-Being, Online Education, Faculty Experiences, Teaching Effectiveness*

## Introduction

Higher Education has undergone significant change due to technological advances, where online education has become a vital aspect of modern pedagogy (Mosquera et al., 2022). HEIs are becoming more conscious about their need to ensure human and social sustainability, considering considerations that are related to the welfare of the academic community (Mosquera et al., 2022). This concept of human sustainability is directly related to Sustainable HRM, which is employee-oriented management that is concerned with the well-being of the employees to realize organizational goals (Mosquera et al., 2022).

The onset of the COVID-19 crisis became an impetus for unprecedented shifts in terms of educational provision, compelling educational institutions across the globe to shift to emergency remote teaching in a haste manner (Mosleh et al.,

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2022). Such a dramatic shift from face-to-face learning created numerous problems, not only for students but especially for teaching faculty who had little time to adapt their teaching methods into an online format.

Teaching online is an extremely complicated task that involves a variety of duties on the part of instructors (Gagné et al., 2009). Critical thinking and community inquiry theory helps explain how one can understand online teaching by considering three important concepts: cognitive presence, social presence and teaching presence (Gagné et al., 2009). 'Teaching presence' refers to the management and regulation of cognitive and social processes to attain effective learning results, which is mainly a function of the instructor (Gagné et al., 2009).

The available evidence reveals that teachers involved in online teaching undergo a lot of pressure and tensions while adjusting to the online platform, which affects their well-being (Mosquera et al., 2022). The issue of teacher burnout is not associated just with excessive workload; it is more related to an absence of resources and support (Desai et al., 2024; Mosley et al., 2022). A phenomenon known as technostress or stress caused by the application of information and communication technologies, has become a major problem, with the findings revealing that techno-stressed teachers are not willing to engage in online teaching (Boyer-Davis et al., 2023).

The shift towards online teaching was especially difficult because most teachers felt inadequate, received no help and were forced to learn on the fly with their past experience of teaching (Mestry, 2023; Karim et al., 2024). Working from home using ICTs made teachers feel stressed, anxious, exhausted and unsatisfied with their jobs (Mestry, 2023; Karim et al., 2024). These cases indicate that more sustainable strategies should be employed in assisting teachers online. Although awareness about these problems is increasing, there is still an absence of literature that has explored the impact of sustainable HRM practices on the digital well-being of faculty members and online teaching effectiveness. This systematic review seeks to address this issue through the study of existing literature about the influence of sustainable HRM practices on digital well-being.

**Eligibility Criteria**

The inclusion criteria for the study were: 1)Researching on the concept of online education, systems, and/or institutions providing instructions via digital mode; 2)Researching on faculty/instructors/educators, and their role in online instruction; 3) Investigating any aspect of sustainable human resource management including aspects such as workload, professional development, work-life balance activities, etc.; 4) Evaluating any outcome of faculty digital wellbeing including, for example, burnout, stress, job satisfaction, digital exhaustion, or psychological wellbeing; 5) Investigating any aspect of effectiveness of online teaching, including, for example, student learning outcomes, teaching performance, etc.

Empirical papers that used either quantitative, qualitative or mixed methods to conduct research based on data collection and analysis were acceptable, while editorials, opinions, and literature reviews were excluded.

**Information Sources and Search Strategy**

This study involved a thorough literature review on five databases: Semantic Scholar, PubMed, OpenAlex, arXiv, and Clinical Trials. Searches were made by combining terms associated with online education, sustainable HRM, faculty well-being, and faculty effectiveness. Important search phrases include: ("online education" OR "distance learning" OR "remote learning") AND ("sustainable HRM" OR "sustainable human resource management"); ("online teaching" OR "remote teaching") AND (faculty OR instructor) AND ("digital well-being" OR "technostress" OR "burnout"); and (faculty OR educator) AND ("work-life balance" OR "professional development") AND ("online education").

**Selection Process**

The first search yielded two hundred and twenty records. After eliminating twenty-five duplicate records (twenty-three were eliminated based on DOI match while two others were based on title match), a total of one hundred and ninety-five records

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remained. The mechanical filter led to the elimination of twenty four records based on lack of abstracts. A further one hundred and twenty two records were eliminated through the process of title and abstract screening while full-text assessment led to the elimination of another twelve records.

**Data Extraction**

Data extracted from the articles include the methodology of the study, sample size, education setting, mode of instruction, main variables being investigated, HRM techniques used, well-being measures, key results concerning well-being and instructional effectiveness, interventions, sustainability factors considered, barriers encountered, and bias assessments.

**Risk-of-Bias Assessment**

The potential for bias was evaluated within various domains such as randomization procedure, outcome measurements, incomplete data regarding the outcome, outcome reporting, and intervention deviation. Majority of the included studies were based on observational methods, which means that it was impossible to evaluate the randomization; hence, this aspect was marked as "not applicable."

**Certainty-of-Evidence Assessment (GRADE)**

The GRADE (Grading of Recommendations Assessment, Development and Evaluation) methodology was utilized in order to determine certainty in evidence related to the important outcomes. There were five major outcomes that were considered: (1) the effects of faculty digital well-being and psychological status during online instruction (N=15; low certainty), (2) effects of institutional support on faculty well-being (N=12; low certainty), (3) connections between faculty digital well-being and effectiveness of online instruction (N=3; very low certainty), (4) technostress and work/life imbalance problems (N=8; moderate certainty), and (5) professional development/training (N=10; moderate certainty).

**Results**

**Included Study Characteristics**

A total of thirty-seven articles were selected for review. They were characterized by varied geographic, educational, and research environments. The size of samples varied from three subjects used in case studies to over one thousand participants in survey studies. Articles came from a wide range of countries such as USA, UK, South Africa, Japan, Pakistan, UAE, Greece, Mexico, Brazil, Belgium, and Hong Kong.

Included studies employed various designs: qualitative meta-synthesis involving two hunred and three participants across nive original qualitative studies (Gagné et al., 2009); narrative research with three students and five clinical teachers (M et al., 2024); focus group methodology with thirty two university teachers (B et al., 2022); cross-sectional surveys ranging from one hundred and two to eight hundred and forty five participants (Mosleh et al., 2022; Tzafilkou et al., 2022); controlled experiments with twenty instructors (Ma, 2026); and scale validation studies with two hunred and fifty to three hundred respondents (Cao et al., 2025).

Educational contexts spanned undergraduate and graduate programs, professional education, health sciences, business schools and elementary education. Teaching modalities included fully online synchronous and asynchronous instruction, hybrid or blended learning, and emergency remote teaching during the pandemic.

**Faculty Digital Well-Being and Mental Health**

Evidence of low certainty from fifteen studies indicates substantial impacts on faculty digital well-being during online teaching. Faculty members experienced both enthusiasm about digital opportunities and significant stress simultaneously, with feelings of loneliness and struggle to find balance emerging as common themes (B et al., 2022). Research from Japan found that thirty three percent of faculty members were at risk of mental illness during pandemic-era online teaching (Kita et al., 2022). The WHO-5 well-being score during COVID-19 was significantly lower than before the pandemic, and university support services had a positive effect on mental health while difficulty using technology had a negative effect (Kita et al., 2022).

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A cross-sectional study of two hundred and seventy eight faculty members found moderate stress levels during online teaching (mean 6.21 ± 2.26 on a 0-10 scale) and revealed that higher stress and lower satisfaction with the online teaching experience were associated with more significant personal and working burnout (Mosleh et al., 2022). Over forty percent of participants showed high emotional exhaustion due to online home teaching (Mosleh et al., 2022). Research on surgical educators demonstrated high emotional exhaustion (mean = 32.39, SD = 10.27) using the Maslach Burnout Inventory (Desai et al., 2024).

Qualitative findings revealed that academics experienced serious emotional and psychological stress detrimental to their well-being, with participants describing being on an "emotional rollercoaster" and experiencing accumulated psychological symptoms as the pandemic surged (Mestry, 2023). The challenges of digital transformation were captured by one participant who stated that working from home using ICT "created feelings of tension, anxiety, exhaustion, and decreased job satisfaction" (Mestry, 2023).

**Technostress and Work-Life Balance Challenges**

Evidence of moderate certainty from 8 studies demonstrates that technostress significantly affects faculty well-being and motivation. Technostress encompasses multiple dimensions including techno-overload, techno-invasion, techno-complexity, and techno-uncertainty (Boyer-Davis et al., 2023). Research findings indicate that techno-stressed faculty are less motivated to teach online both pre-pandemic ($\beta$ = -.112, $p < .01$) and during the pandemic (Boyer-Davis et al., 2023).

The construct of technostress affects educators' ability to perform tasks effectively by diverting attention, decreasing motivation, and reducing general job satisfaction (Saboor et al., 2024). A validated scale for technostress revealed that higher levels of technostress dimensions are positively correlated with increased emotional exhaustion and work-family conflict (S et al., 2025). Distance educators reported that being online and available to students on a round-the-clock basis and the feeling of never being "done" with teaching led to descriptions of distance education being "fatiguing" and intrusive on personal and leisure time (McLean, 2006).

Work-life balance emerged as a critical concern across studies. Techno-invasion occurs when technologies infringe upon and upset work-life balance, compelling faculty to stay connected during non-teaching hours (Boyer-Davis et al., 2023). The pandemic exacerbated these concerns, with 86.2% of female teachers reporting working days as more strenuous due to double or triple shifts (Zapata-Garibay et al., 2021). Faculty members described spending 12-14 hours daily on work tasks, with the line between working hours and leisure time becoming "so vague that it continues to strain them" (Zeeshan et al., 2020).

Screen time and digital fatigue presented significant physical and psychological challenges. Faculty reported increased screen time (50.0%) and computer-related physical stress (44.6%) (Idris et al., 2021). 95% of participants in another research claimed that excessive use of screens is either a moderate or a very significant problem, while 86% struggled with balancing their working hours (Erlam et al., 2021). The instructors also experienced techno-fatigue in the form of thinking processes, mental workload, and exhaustion, where female instructors revealed more feelings of both joy and fatigue (Tzafilkou et al., 2022).

**Impact of Institutional Support and Professional Development**

Evidence of moderate certainty from 10 studies demonstrates that professional development and institutional support positively influence faculty adaptation to online teaching. Faculty members who received timely technical support and training dealt better with the stress of the change (Mosquera et al., 2022). The percentage of participants completing more than 15 professional development hours increased dramatically to slightly more than forty-four percent following the transition to remote teaching (Mosleh et al., 2022).

Professional development programs focused on various platforms including Blackboard Collaborate, Zoom, and Microsoft Teams enabled virtual

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learning through technology (Mestry, 2023). Institutions that provided comprehensive support showed better faculty outcomes, with one participant noting that attending professional development workshops improved confidence and technology skills (Mestry, 2023). These programs included workshops and seminars on online teaching and facilitation for academic staff (Mestry, 2023).

Technical support emerged as critical for faculty well-being. Research found that faculty members were more at risk for mental illness when they were unsatisfied with administrative support for online education (Kita et al., 2022). Institutions should budget to staff online teaching and learning support teams such as instructional designers to provide faculty with professional development and technology support (Boyer-Davis et al., 2023). The challenge with educator burnout was not work overload but rather a lack of resources and support, with faculty expressing desire for development in learning how to effectively engage learners online (Desai et al., 2024).

Evidence of low certainty from twelve studies suggests that comprehensive institutional support—encompassing technical assistance, pedagogical training, and psychosocial support—is associated with better faculty well-being outcomes. Schools need to promote healthy work-life practices such as flexible schedules, "digital detox" days, and mindfulness programs (Saboor et al., 2024). Organizations should develop official work-life balance policies defining rules about technology boundaries during non-work times (S et al., 2025). Mental health awareness programs with resources and coping mechanisms should be implemented with regular feedback mechanisms enabling educators to voice concerns about digital workload (Saboor et al., 2024).

**Relationship Between Faculty Well-Being and Teaching Effectiveness**

Evidence of very low certainty from only 3 studies explicitly examined the relationship between faculty digital well-being and online teaching effectiveness. Research indicates that poor teacher well-being can compromise the quality of education, with teacher engagement positively impacting the quality of emotional support and classroom organization while teaching-related stress negatively affects children's education quality (Jangbarwala & Reichert, 2026). Teacher well-being is critical because poor teacher well-being (physical and psychological strain) can compromise educational quality (Jangbarwala & Reichert, 2026).

The qualitative metasynthesis identified that online teaching was perceived as stimulating and satisfying for many participants because of professional growth opportunities, with one participant noting "As a teacher, I feel exhilarated" (Gagné et al., 2009). However, role changes from lecturer to facilitator required substantial adaptation, and faculty experienced transformation from knowledge dispenser to resource provider (Gagné et al., 2009).

Interaction among students and lecturers and support offered by universities emotionally and socially is a key requirement in facilitating effective learning (Idris et al., 2021). Lecturers who show real interest in students both personally and academically show better results among students. In the study conducted among elementary school teachers, it was found that online teaching effectiveness among such teachers was based on two universal core requirements: acceptance of online teaching and Technological Pedagogical Content Knowledge (TPACK) (Ma, 2026).

**Barriers and Challenges**

Several obstacles related to sustainable HRM in online learning were highlighted in several studies. Inability to use technology and a lack of sufficient time to engage in self-learning and electronic resources development were major hindrances (Almazova et al., 2020). Teachers stressed that developing electronic learning content required double the amount of time compared to traditional content development. Problems with connectivity, inadequate equipment, and technical features of the platforms used also caused stress (B et al., 2022).

There appeared to be institutional support deficiencies, as the participants stated that the first reactions "were chaotic since underpinning structures were lacking" (Mosquera et al., 2022).

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Certain lecturers had been presented with major decisions by university administrators, but there was "absolutely no guidance on how that would be implemented at the department level" (B et al., 2022). The lack of recognition of additional time needed to research and implement online teaching created discontent among faculty.

Student engagement difficulties amplified faculty stress. Research revealed that maintaining student engagement in virtual environments was challenging, with 51.2% of faculty acknowledging difficulties (Marek et al., 2020). The inability to read body language and see when students experienced confusion limited teaching effectiveness. Both students and teachers experienced "online fatigue" from extended screen time, with sessions sometimes overrunning to three hours making concentration difficult (M et al., 2024).

**Summary of Findings**

This systematic review synthesized evidence from thirty seven studies examining the relationships between sustainable HRM practices, faculty digital well-being, and online teaching effectiveness. Evidence of moderate certainty demonstrates that technostress and work-life balance challenges significantly impact faculty well-being in online teaching contexts. Professional development and institutional support interventions show moderate certainty for improving faculty competencies and reducing stress. However, the direct relationship between faculty digital well-being and teaching effectiveness remains understudied, with only very low certainty evidence available.

The findings align with sustainable HRM theory, which posits that employee-centered management focused on health and well-being creates positive environments enabling achievement of organizational goals (Mosquera et al., 2022). Faculty satisfaction with online teaching positively and significantly influences general well-being, home-work interface, and job and career satisfaction (Mosquera et al., 2022). This suggests that institutional investments in faculty support have both humanitarian and strategic value.

Technostress emerged as a pervasive challenge requiring targeted intervention. The higher the level of technostress in faculty members, the lower their motivation to engage in online instruction (Boyer-Davis et al., 2023). There are crucial implications associated with this issue, because without resolving technostress among faculty members, institutions run the risk of losing their interest in participating in the online programs that may have required heavy investments into digital platforms and systems for delivering online education (Boyer-Davis et al., 2023).

Professional development showed significant impacts in several empirical studies with moderate evidence supporting its contribution to improving the quality of education through better faculty results. Nonetheless, it is important to highlight how the process of professional development should be carried out. Theory-based training and mentoring regarding online and distance education should be given preference over simply using technology (hardware and software) for teaching (Marek et al., 2020). Not only should faculty development emphasize technology, but also interactive online classes, innovative delivery of content, and empowering students (Gagné et al., 2009).

**Strengths and Limitations of Evidence**

There is considerable variation in the range of perspectives considered in the studies included. This increases the applicability of the results while accepting their contextual differences. Both the use of quantitative assessments (such as validated scales like WHO-5, Maslach Burnout Inventory, technostress) and exploring the qualitative aspects of personal experiences complement each other well.

Nonetheless, several limitations are evident. First, all studies used a cross-sectional design, which means that there is no causality established in most cases. Moreover, many studies were carried out during the COVID-19 pandemic and related to emergency remote teaching, not the planned online education, which might skew results toward more negative indicators. Finally, response rate was quite different in many of the papers, with a possible element of selection bias. Notably, very low

certainty evidence concerning the link between staff well-being and teaching effectiveness is crucial.

The risk of bias assessment showed issues in multiple domains. Outcome measurements displayed some biases due to the usage of self-reported instruments. The selection of results that were to be used in this systematic review was prone to bias due to the exploratory approach adopted by several studies. Issues with missing outcome data were of low risk for most studies, although attrition was an issue in some cases.

**Comparison with Prior Reviews**

This study builds on existing scholarly literature about the experience of online teaching during the pandemic period (B et al., 2022). From the literature review, it was clear that the presence of institutional support was crucial in facilitating the adoption of online learning, and it would be wise to integrate issues of technology and multimedia resources into this support (B et al., 2022).

The current literature review is enhanced by incorporating sustainable HRM practices and by addressing the issue of faculty well-being and teaching effectiveness. In earlier work, it was noted that there were several difficulties such as insufficient time relative to the amount of effort needed in developing new tools for teaching (Mosleh et al., 2022), but no systematic link had been made before.

**Implications for Practice and Research**

According to certain evidence, organizations are advised to develop a broad support system involving technical support, professional development, and psychological support. The policy suggestions include providing mandatory training related to the management of digital workload and burnout symptoms, as well as investing in mental health facilities that will provide counseling sessions and stress reduction programs (Saboor et al., 2024).

It is imperative that strong focus be put on the idea that distance educators should impose sensible standards on themselves and create proper boundaries between their professional and private lives to maintain healthy and effective faculty (McLean, 2006). It must be noted that special attention needs to be paid to making remote faculty feel a part of the larger whole in the institution.

With the presence of very low certainty evidence between faculty well-being and teaching efficiency, future research should focus on longitudinal studies and use validated indicators for measuring the two variables. It would help if randomized controlled trials that focus on testing the impact of specific HRM strategies on the relationship were conducted.

The evidence suggests a design-oriented perspective where the importance of aligning technology with faculty preference, skills, and ability is paramount (B et al., 2022). The support staff at faculty levels with knowledge of blended and online learning was highly appreciated, and institutions need to develop their capacity to provide such support internally. Creating peer-supportive learning communities and supporting collaboration represents an excellent practice to prevent or minimize isolation experiences and foster resilience among educators (Saboor et al., 2024).

**Conclusion**

This systematic review provides evidence that sustainable HRM practices—including professional development, technical support, work-life balance policies, and mental health resources—are associated with improved faculty digital well-being in online education environments. Moderate certainty supports the effectiveness of institutional support and training interventions. However, the relationship between faculty digital well-being and online teaching effectiveness remains inadequately characterized, with only very low certainty evidence available. Institutions should prioritize sustainable approaches to supporting faculty while investing in rigorous research to better understand how faculty well-being ultimately influences educational quality and student outcomes. By fostering supportive cultures that value mental health and resilience, higher education institutions can mitigate negative impacts of technostress while enhancing both faculty engagement and educational effectiveness (S et al., 2025).

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