



Technostress and employee well-being: A systematic review of empirical evidence

Ezgi Mansuroğlu^{*}, Andrew P. Smith

Centre for Occupational and Health Psychology, School of Psychology, Cardiff University, 70 Park Place, Cardiff, CF10 3AT, UK

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ABSTRACT

As technology continues to reshape industries, understanding the effects of technostress on employee well-being becomes imperative. While research on technostress has grown substantially in recent years, existing studies are often fragmented in scope and limited in cross-contextual depth. In this systematic review, we synthesized the findings of 201 (after the double screening) peer-reviewed empirical studies, primarily retrieved from the PubMed, Scopus, and Web of Science databases, to map technostress along the four analytical dimensions: its core components, its impact on well-being, key mediating and moderating variables, and contextual variations. Our findings demonstrated that the relationship between technostress and employee well-being has been most frequently studied in Germany, Italy, and India, with education and healthcare emerging as the most commonly examined sectors. Furthermore, techno-overload and techno-invasion were the most reported technostressors linked to adverse well-being indicators across the studies. Our analysis revealed an underrepresentation of cross-national and cross-cultural comparisons in the existing literature. Drawing on these insights, this review advances the literature by introducing the Demands-Resources-Individual Effects (DRIVE) model as a coherent integrative framework for studying technostress and well-being. The model provides a theoretically grounded explanation of how digital demands, personal resources, and individual differences interact to shape well-being outcomes. Combined with the Well-being Process Questionnaire (WPQ), it also offers a practical, validated approach for assessing these mechanisms in diverse organizational contexts.

1. Introduction

The digitalization of work has accelerated drastically in the last two decades, reshaping occupational environments in almost every sector. Technological advancements in information and communication technologies (ICT), remote connectivity, and intelligent work systems have increased both productivity and complexity of modern work (Banerjee & Gupta, 2024; Taser et al., 2022). While ongoing technological progress has immense benefits, such as flexibility, access to information, and productivity gains, it has also introduced new psychosocial challenges (Cioffi et al., 2025; Rohwer et al., 2022; Truchon et al., 2022). Among the most pervasive of these is technostress: the stress experienced due to the use of, interaction with, or demands imposed by digital technologies in the workplace.

First coined by Brod (1984), technostress initially referred to the “inability to cope with new computer technologies healthily” (p.16). Over time, the concept has evolved and expanded. Contemporary definitions now encompass a range of technology-related stressors, including

techno-overload (being forced to work faster), techno-invasion (technology intruding into personal life), techno-complexity (difficult or unfamiliar systems), techno-insecurity (fear of job loss due to automation), and techno-uncertainty (constant updates and change). These ‘technostress creators’ (Ragu-Nathan et al., 2008) are now understood as significant job demands that may undermine mental, emotional, and physical well-being (e.g., headache, musculoskeletal disorders).

Concurrently with the rise of digital technologies, employee well-being has emerged as a central theme in occupational health psychology. Although there are many different definitions of well-being, they often include psychological well-being (e.g., reduced anxiety, depressive symptoms), cognitive well-being (e.g., mental clarity, reduced fatigue), emotional affect, work-life balance, and overall life satisfaction (Nelson & Smith & Smith, 2019). Organizational stakeholders increasingly recognize that sustaining well-being is a moral obligation for sustainable productivity, staff retention, and organizational resilience (Pandey et al., 2025).

The mandatory shift to remote work during the COVID-19 pandemic

^{*} Corresponding author.

E-mail addresses: mansuroglue@cardiff.ac.uk (E. Mansuroğlu), smithap@cardiff.ac.uk (A.P. Smith).

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dramatically accelerated workforce dependence on digital tools and exacerbated key technostress creators. This confluence has solidified technostress as a critical research domain, urgently necessitating further inquiry into its antecedents, outcomes, and coping strategies (Martin et al., 2025). In this respect, understanding how technostress affects employee well-being has also become increasingly critical. While empirical interest in this relationship has grown considerably, the literature remains fragmented and uneven in scope. Some reviews focus narrowly on antecedents (e.g., Kotek & Vranjes, 2025), while others extend the concept into non-occupational domains, which can reduce its relevance for workplace-focused analysis (La Torre, Esposito, Sciarra, & Chiappetta, 2019). Several reviews adopt a single theoretical perspective, thereby limiting integrative potential across conceptual traditions (e.g., Baumeister et al., 2021; Buonomo et al., 2025; Kumar, 2024). Others concentrate on sector-specific populations (e.g., Kremer et al., 2022; López Galicia & Gómez Ortiz, 2023; Nang et al., 2022; Yang et al., 2025), which restricts generalizability. Finally, reviews conducted during the COVID-19 pandemic have produced important insights into situational and crisis-induced technostress (e.g., Bahamondes-Rosado et al., 2023; Marino & Capone, 2021; Gualano et al., 2023), though their temporal scope constrains their post-pandemic applicability.

To address these limitations, the present review conducts a structured synthesis of empirical studies examining the technostress and well-being relationship in occupational contexts. It draws on 201 peer-reviewed, empirical, English-language studies published over the past two decades. Unlike earlier reviews, which often focus on narrow sectors, time periods, or theoretical perspectives, this study offers a broader, more integrative synthesis of the empirical landscape. By mapping a diverse array of technostress outcomes and mechanisms across occupational contexts, it provides a comprehensive foundation for future cumulative research.

A key contribution of this review lies in proposing the DRIVE model (Demands-Resources Individual Effects; Mark & Smith & Smith, 2019) and the Well-being Process Questionnaire (WPQ; Williams & Smith & Smith, 2019; 2017) as promising conceptual tools for future research. The DRIVE model conceptualizes occupational stress as the product of job demands, workplace resources, and individual traits (e.g., personality, coping), and is ideally suited for investigating context-specific stress phenomena such as technostress. The WPQ, a streamlined DRIVE operationalization, allows for practical assessment of demands and well-being through brief yet psychometrically sound items. Both frameworks are well-positioned to uncover technostress's multilevel antecedents and outcomes across occupational groups. To our knowledge, this is the first technostress review to explicitly connect these frameworks to the empirical evidence base, offering a structured path forward for theory integration in this field. Building on these conceptual insights, and in response to the identified gaps, this review is guided by the following research questions:

1. How has technostress been conceptualized and operationalized in empirical studies involving working populations?
2. What are the main effects of technostress on different dimensions of employee well-being (psychological, cognitive, emotional, and work-related)?
3. Which mediating and moderating variables influence the relationship between technostress and well-being?
4. How can the DRIVE model and WPQ be applied to integrate and extend current research on technostress and employee well-being?

2. Theoretical frameworks

Understanding the relationship between technostress and employee well-being requires a robust theoretical grounding. Across the 201 empirical studies reviewed, researchers have drawn from a diverse array of psychological, organizational, and sociotechnical theories. Theoretical applications vary in depth, but several models recur with

consistency. Table 1 outlines the dominant and supplementary frameworks used to conceptualize technostress dynamics.

While the Job Demands-Resources (JD-R), Transactional Model of Stress and Coping, and Conservation of Resources (COR) theories dominate, integrating context-specific, emotion-centered, and coping-based models has deepened the field's understanding of technostress. Nevertheless, no single model fully captures the complex, multi-layered nature of technostress and well-being in digital work environments. Though previous studies show partial alignment with the DRIVE dimensions, we found no empirical work that explicitly adopts the DRIVE framework in this context. In light of this, the DRIVE model may provide an enriched perspective on technostress dynamics.

2.1. Demands-Resources-Individual Effects (DRIVE) model

The preceding overview indicates that many models examine psychosocial factors in the workplace and stress. Some of these models focus on job characteristics, while others focus on individual differences and the psychological processes they influence. However, relatively few models attempt to integrate these two perspectives simultaneously, and those that do often include only a limited number of individual variables. The DRIVE model was initially developed as a stress framework intended to bridge the gap between the overly simplistic nature of interactional stress models and the overly complex structure of transactional stress models (Mark & Smith & Smith, 2019).

Interactional models (e.g., JD-R, DCS) tend to overlook the subjective experience of the individual, instead concentrating on environmental and structural elements, claiming that stress is an unavoidable result of specific work conditions. Transactional models (e.g., Lazarus and Folkman's model), on the other hand, describe stress as a cognitive process involving appraisal and coping, even though their complexity restricts practical application. The DRIVE model combines both perspectives by recognizing environmental stressors and individual differences without excessive psychological detail (Mark & Smith & Smith, 2019).

Truchon et al. (2022) note that traditional models such as the Demand-Control-Support (DCS) and Effort-Reward Imbalance (ERI) frameworks have shaped the understanding of psychosocial stress but remain limited in scope, prompting broader approaches. This limitation motivated the development of the DRIVE model, which incorporates job characteristics from these earlier models and highlights personal resources (Smith & Smith, 2019). The model integrates both occupational and personal factors including job demands, control, and support, levels of effort and reward, coping behaviors, attributional styles, and demographic characteristics such as age and gender. Over time, DRIVE has evolved from predicting negative outcomes like anxiety and depression (Mark & Smith & Smith, 2019) to also encompassing positive well-being indicators such as happiness, job satisfaction, and positive affect (Williams & Smith & Smith, 2019).

An enhanced version of the DRIVE model comprises a subjective component, incorporating perceived stress as an interactive factor influencing the relationships between demands, resources, and outcomes (Mark & Smith & Smith, 2019). This multidimensional version considers both direct and indirect pathways, acknowledging that job characteristics can affect well-being partly through perceived stress (Galvin, 2016; Nelson, 2017). Empirical evidence supports the model's direct effects, though interaction effects remain limited, consistent with findings from other frameworks such as the DCS model.

Designed as a flexible theoretical framework rather than a predictive model, the DRIVE model allows researchers to adapt or add variables for specific or niche studies. For instance, Williams (2015) incorporated the HSE Management Standards, while Vallone et al. (2020) added work-life balance measures, specifically the Family-Work Conflict (FWC) and Work-Family Conflict (WFC) scales. Similarly, Capasso and colleagues (2018) integrated variables such as ethnic identity, racial discrimination, and acculturation to examine the well-being of migrant workers in

Table 1
Main theoretical models across studies.

Theoretical Model	Core Idea	Representative Studies	Strengths	Limitations (addressed by DRIVE)	How DRIVE Builds On It
JD-R Model	It defines technostress as a job demand that consumes energy and psychological resources, potentially leading to strain, burnout, or reduced engagement unless buffered by adequate job resources such as autonomy, support, or digital competence.	Chuang et al. (2025); Panisoara et al. (2020); Ma et al. (2021); Bail et al. (2023); Mondo et al. (2023); Sharma and Tiwari (2023); Pfaffinger et al. (2022); Liu et al. (2024); Hang et al. (2022); Alkhayyal and Bajaba (2024); Bernburg et al. (2024); Marsh et al. (2024); Scholze and Hecker (2024); Taser et al. (2022); Wirth et al. (2024); Kemp et al. (2024); Labarthe-Carrara et al. (2024); Meyer and Tisch (2023); Nuutinen & Bordi, L. (2025); Muhammed Ali and Sivasubramanian (2024); Rasulova and Tanova (2025)	Widely validated; flexible across occupations; distinguishes between burnout and engagement.	Focuses primarily on job-level factors; underemphasizes individual differences (Personality, coping etc).	DRIVE extends this balance by adding personal demands and personal resources alongside job factors, integrating both environmental and individual dimensions.
Transactional Stress Theory	Technostress is a stressor whose outcomes depend on personal interpretation and coping behavior. TST emphasizes cognitive appraisal and coping strategies in response to stress.	Pothuganti et al. (2025); Sevic et al. (2025); Fortagne et al. (2024); Khedhaouria et al. (2024); Thurik et al. (2024); De Andres-Sanchez et al. (2023); Urukovičová et al., (2023); Sommovigo et al. (2023); Shirish (2021), Kotera et al. (2021); Tajeja et al. (2021); Molino et al. (2020); Al-Ansari and Alshare (2019), Gaudioso et al. (2017); Day et al. (2012); Bonanomi et al. (2021); Pflügner et al. (2021); Rastegar and Rahimi (2023); Pirkkalainen et al. (2017); Khedhaouria and Cucchi (2019); Srivastava et al. (2015); Fuglseth and Sørebo (2014)	Emphasizes subjectivity, cognitive appraisal, and coping; explains individual variability.	Too process-heavy and complex for large-scale measurement: difficult to operationalize empirically.	DRIVE incorporates the individual perspective but simplifies the process, allowing measurable constructs (demands/resources) without modeling every appraisal and coping stage.
COR Theory	Individuals strive to acquire, protect, and maintain resources; stress occurs when resources are threatened or lost.	Nayak et al. (2025a); Baek et al. (2024); Dutta and Mishra (2024); Ali, Nisar, and Nasir (2023); Gemmano et al. (2023); Consiglio et al. (2023); Wang et al. (2023)a; Bauwens et al. (2021); Rus et al. (2021); Chen and Karahanna (2018); Raza et al. (2022), Harris et al. (2022); Wu et al. (2020); Gulati et al. (2024)	Explains stress accumulation and burnout; useful in cross-cultural contexts.	Often abstract and broad; lacks clear operationalization for workplace measurement	DRIVE operationalizes resources concretely at both job and personal levels (e.g., control, support, coping), allowing empirical testing of COR principles within occupational settings.
P-E Fit Theory	Well-being depends on the match (fit) between individual characteristics (abilities, needs, values) and environmental demands/resources.	Umair et al. (2023); Ficapal-Cusf et al. (2025); Khan (2023); Kutlutürk Yıkılmaz et al. (2024); Nkomo and Kalisz (2025); Jaiswal et al. (2024)	Highlights individual-environment interaction; explains satisfaction and strain	Typically static, focuses on fit/misfit rather than ongoing processes; doesn't capture coping or dynamic change.	DRIVE goes beyond static fit to model ongoing interactions between demands and resources, linking them directly to outcomes like well-being and strain.
SSO Model	Stressors (demands) cause strain (psychological/physiological), which leads to outcomes (loneliness, performance decline).	Camacho and Barrios (2022); Singh et al. (2022); Califf and Brooks (2020); Maier et al. (2015)	Simple and intuitive; useful for prediction	Linear and mechanistic; neglects feedback loops, coping, and individual resources.	DRIVE replaces the linearity with a reciprocal framework incorporating both positive and negative outcomes, allowing assessment of wellbeing holistically.

Note: Although some studies were grounded in multiple theories, each study was presented under only one theory in the summary table for illustrative purposes.

Italy. The model can also be applied in both macro and micro analyses. For example, at the macro level, Williams and Smith and Smith (2019) explored personality, social support, and coping as predictors of well-being among university students while Fan and Smith and Smith (2019) examined workload, performance, and fatigue among railway workers at the micro level.

The model has been widely applied across various occupational groups and contexts, including general working populations (Nor & Smith & Smith, 2019), working mothers (Smith & James, 2021),

university staff (Williams, Thomas, & Smith, 2017), Williams, Thomas, & Smith, 2017)ue-collar workers (Smith & Smith & Smith, 2019, chap. 2), police officers (Nelson & Smith & Smith, 2019), and nurses (Zurlo et al., 2018). It has also been utilized across different cultural settings such as China (Zhang & Smith & Smith, 2019), the USA (Ahmad et al., 2018), Italy (Capasso et al., 2018), Jamaica (Nelson & Smith & Smith, 2019), the U.K. (Galvin & Smith & Smith, 2019), and Nigeria (Omosehin, 2021), demonstrating its versatility. This adaptability is particularly relevant, as Alheneidi (2019) noted that the well-being

challenges faced by students differ significantly from those of workers.

2.2. The Well-being Process Questionnaire (WPQ)

The Well-being Process Questionnaire (WPQ), developed by Williams and Smith and Smith (2019), is a concise and psychometrically sound short-form instrument designed to assess the key components of the DRIVE model. By utilizing single-item and brief multi-item indicators, the WPQ effectively minimizes respondent burden without compromising reliability or validity. It operationalizes constructs such as job demands, job resources, individual characteristics, and well-being outcomes primarily through single-item measures. These items have demonstrated strong concurrent validity and acceptable reliability estimates when benchmarked against corresponding multi-item scales (Williams et al., 2017a, 2017b). Consequently, the WPQ provides a practical and efficient means of applying the DRIVE framework in empirical research without compromising psychometric quality.

While previous research has examined technostress and well-being separately or within limited theoretical frameworks, the present study offers a novel contribution by integrating the DRIVE model with the WPQ to conceptualize and measure technostress within a comprehensive employee well-being framework. The DRIVE model provides the theoretical backbone for understanding how digital demands, resources, and individual characteristics interact to influence well-being, whereas the WPQ offers a validated and efficient measurement tool grounded in this model. This integration moves beyond prior approaches that treat technostress merely as an isolated stressor, instead framing it as a form of digital demand operating through the same mechanisms as other psychosocial stressors. The proposed framework therefore advances existing theory by combining conceptual depth with methodological precision, offering a new, empirically testable model for understanding the multifaceted impacts of technostress on employee well-being.

3. Methodology of the review

We employed a Systematic Literature Review methodology to comprehensively synthesize empirical findings on the relationship between technostress and employee well-being in working populations. A systematic review is characterized by its methodological rigour, transparency, and replicability (Rocco, Plakhotnik, McGill, Huyler, & Collins, 2023; Fisch & Block, 2018). The present review followed established guidelines, including the PRISMA framework (Page et al., 2021), to ensure the credibility of inclusion and exclusion decisions and the analytical reliability of the synthesis.

3.1. Research objective and scope

Our main objective was to examine how technostress impacts well-being among working adults. Thus, this review specifically focused on empirical studies. Well-being was operationalized broadly, encompassing primarily the following constructs:

- Psychological well-being (e.g., depression, anxiety, strain)
- Emotional and affective states (e.g., fatigue, positive/negative affect)
- Work-related well-being (e.g., job satisfaction, engagement, burnout)
- Cognitive outcomes (e.g., mental exhaustion, overload)
- Occupational quality of life (e.g., work-life balance)

3.2. Inclusion and exclusion criteria

A strict inclusion and exclusion criterion was applied to ensure the review's relevance, validity, and conceptual focus. Table 2 outlines the inclusion and exclusion criteria we used in this review:

These criteria ensured that the synthesis would accurately reflect the working population's experience of technostress and exclude

Table 2
Inclusion and exclusion criteria.

Criterion	Inclusion	Exclusion
Population	Employees, professionals, and working adults in any sector	Students, the general adult population, adolescents, and retirees
Study Type	Empirical, peer-reviewed studies	Literature reviews, meta-analyses, conceptual/theoretical papers
Language	English	Non-English
Publication Platform	Indexed in PubMed, Scopus, and Web of Science; published in a conference, book or journal	Non-academic blogs, grey literature, dissertations, editorial abstracts
Conceptual Focus	Studies that examine technostress AND well-being	Studies that address only technology use or only well-being
Context	Workplace settings	General technology use outside the work context

confounding factors such as educational or developmental settings. Eligible conference papers and book chapters were considered for inclusion based on the presence of documented peer-review or editorial vetting by established academic publishers.

Moreover, we did not impose any restrictions on publication dates, allowing for the consideration of studies regardless of their year of publication. Inclusion was strictly conditional upon satisfying all pre-defined eligibility criteria, whereas studies violating any inclusion requirement were omitted from our analysis.

3.3. Search strategy

First, we conducted database searches on PubMed, Scopus, and Web of Science in April 2025, filtering results by Titles, Abstracts, and Keywords. To gather as many studies as possible related to work-related technostress and employee well-being, we used Boolean search string. The specific search strings used for each database are presented in Table 3.

3.4. Screening and selection process

Considering the extensive number of technostress studies published

Table 3
Database-specific boolean queries.

Database	Search Date	Search Query Structure
WOS	06/04/2025	(Technostress OR "Techno Stress" OR "Technology Induced Stress" OR "Digital Stress" OR "ICT Stress" OR "Information And Communication Technology Stress" OR "Digital Fatigue" OR "Information Overload" OR "Tech Overload" OR Technophobia OR "Tech Anxiety") AND (well-being OR wellbeing OR "mental health" OR "quality of life" OR "occupational health" OR "work-life balance")
PUBMED	09/04/2025	(Technostress[TIAB] OR "Techno Stress"[TIAB] OR "Technology Induced Stress"[TIAB] OR "Digital Stress"[TIAB] OR "ICT Stress"[TIAB] OR "Information And Communication Technology Stress"[TIAB] OR "Digital Fatigue"[TIAB] OR "Information Overload"[TIAB] OR "Tech Overload"[TIAB] OR Technophobia[TIAB] OR "Tech Anxiety"[TIAB]) AND (well-being[TIAB] OR wellbeing[TIAB] OR "mental health"[TIAB] OR "quality of life"[TIAB] OR "occupational health"[TIAB] OR "work-life balance"[TIAB])
SCOPUS	07/04/2025	TITLE-ABS-KEY (("technostress" or "techno stress" or "technology induced stress" or "digital stress" or "ict stress" or "information and communication technology stress" or "digital fatigue" or "information overload" or "tech overload" or "technophobia" or "tech anxiety") and ("well-being" or "wellbeing" or "mental health" or "quality of life" or "occupational health" or "work-life balance"))

to date, we imposed no temporal restrictions and included all relevant publications available in the databases up to April 2025. A total of 1363 articles were initially identified through PubMed (193), Scopus (588), and Web of Science (582). As part of the analysis process, we manually examined the reference sections of the included papers to capture any additional studies that might be relevant, through which a total of 39 studies were screened. Titles, abstracts, and full texts were reviewed by the authors to determine eligibility in line with the specified inclusion and exclusion criteria. The screening process was managed in Microsoft Excel using a color-coding system to document inclusion decisions and eliminate duplicates and exclusions. After removing duplicates and reviewing titles, abstracts and full texts for relevance, 201 empirical studies were selected for final inclusion, following discussion and agreement among the authors. The selection process is detailed in the PRISMA flow diagram (see Fig. 1).

3.5. Data extraction and thematic coding

This coding enabled the subsequent thematic synthesis (reported in Section 4) and ensured that no relevant construct was overlooked. Data extraction focused on identifying the theoretical models applied, research design and methodology (cross-sectional versus longitudinal),

characteristics of the study samples such as country, sector, number of participants, the specific technostress dimensions investigated, potential mediators and moderators, keywords, and the types of well-being outcomes assessed.

4. Thematic findings & synthesis

The 201 empirical studies included in this review encompass a total of 218,637 participants and span multiple industries, geographical regions, and digital contexts. Table 4 lists the 20 most frequently occurring keywords across the reviewed studies, outlining the prevailing topical domains within the technostress and well-being literature.

Despite methodological and contextual diversity, the findings converge around four major themes, each discussed in detail below to provide depth and representational accuracy:

1. Dimensions of Technostress
2. Impacts on Well-being
3. Mediators and Moderators
4. Contextual Findings

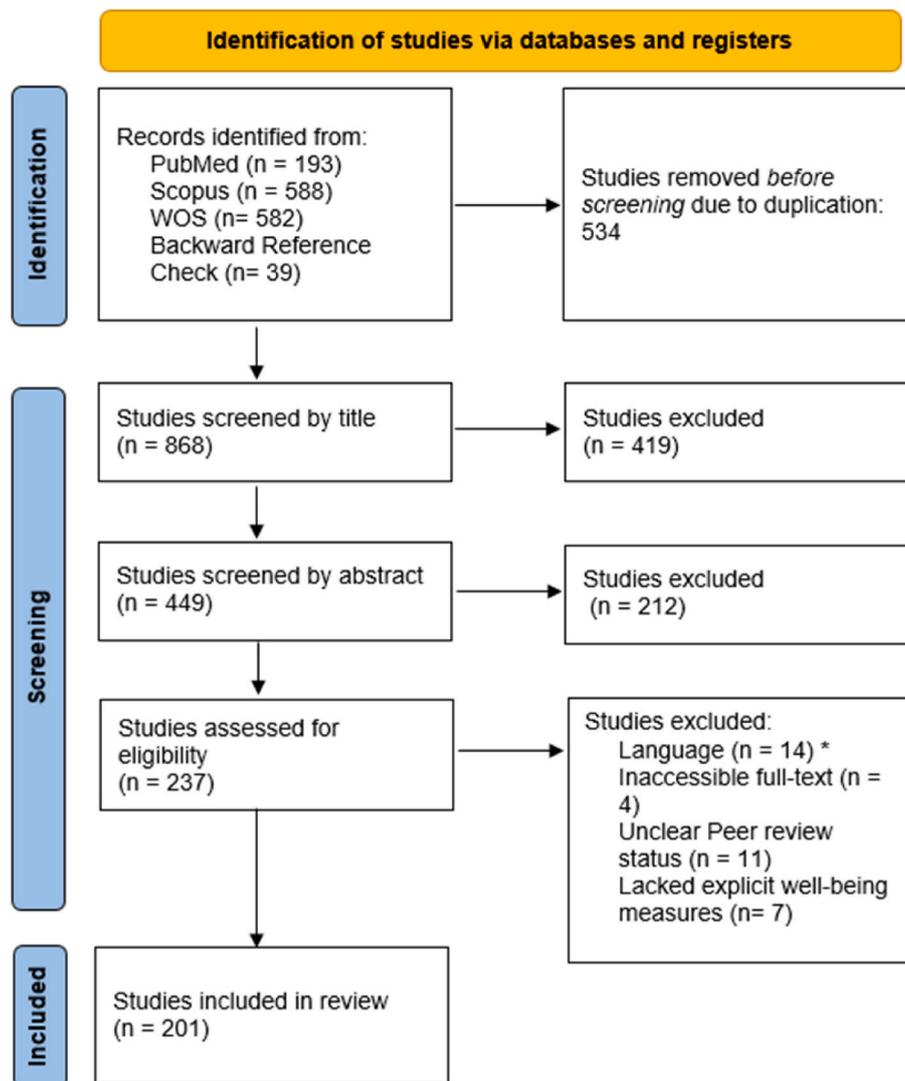


Fig. 1. PRISMA flow diagram

Note: *A total of 14 non-English language studies were excluded during the screening process: German (n = 6), Spanish (n = 4), Portuguese (n = 2), Polish (n = 1), and Italian (n = 1).

Table 4
Top keywords.

Keyword	Frequency
Technostress	113
burnout	23
well-being	20
covid-19	19
job satisfaction	16
mental health	12
stress	12
technostress creators	10
employee well-being	10
work-life balance	9
techno-stress	9
remote working	9
work engagement	8
work-family conflict	7
techno-invasion	7
information overload	6
education	6
covid-19 pandemic	5
Digitization	5
anxiety	5

4.1. Dimensions of technostress

Most studies operationalize technostress using the five classic dimensions identified by Ragu-Nathan et al. (2008): techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty. Among the studies analyzed, 58 employed all five dimensions in their measurement models, reflecting a strong adherence to the original conceptualization. However, newer research extends this taxonomy with additional constructs such as techno-anxiety, digital fatigue, and ICT pressure. Some studies discussed related constructs such as information overload or communication overload but did not explicitly define them as techno-overload or refer to the Ragu-Nathan classification. Therefore, in the counting process, we included only those technostressors that were clearly labeled or explicitly aligned with the Ragu-Nathan typology, excluding cases where the overlap was conceptual but not explicitly stated.

- Techno-overload (present in 122 studies) was identified as a leading predictor of emotional exhaustion and strain (e.g., Bauwens et al., 2021; Bernburg et al., 2025; Picone et al., 2024; Wirth et al., 2024). According to Tell et al. (2023), techno-overload was the strongest predictor of burnout symptoms and lower job satisfaction among technostress dimensions.
- Techno-invasion (employed by 110 studies), particularly during pandemic-driven remote work, was linked to reduced detachment and work-home conflict (Rus et al., 2021; Molino et al., 2020; Mordi et al., 2024). Wang and Yao (2025) asserted that out of the five common technostressors, only techno-invasion considerably impairs academics' psychological well-being. Studies like Benlian (2020), Mondo et al. (2023), Koç and Gasimov (2023) showed that techno-invasion has real consequences for job satisfaction, partner satisfaction, and family dynamics.
- Techno-complexity appeared in 105 studies and was often associated with cognitive overload and reduced self-efficacy, especially in older employees (Ficapal-Cusí et al., 2025). Interestingly, some studies found that techno-complexity (along with insecurity) can positively predict techno-eustress (a beneficial form of stress), suggesting it can be perceived as a growth opportunity, especially in high-competence environments (Issa et al., 2024).
- Techno-insecurity (in 73 studies) was salient in sectors facing automation, with studies in IT and manufacturing showing strong links to job dissatisfaction. This pattern is echoed in the education sector, where Califf and Brooks (2020) documented that teachers who felt

insecure about their technical skills or feared being replaced by more tech-savvy colleagues experienced the highest levels of burnout.

- Techno-uncertainty (used by 72 studies) was associated with negative well-being (Hang et al., 2022). Nevertheless, the impact of techno-uncertainty is less consistent across studies. Pranoto and Nuzulia (2023), for instance, reported a positive relationship between techno-uncertainty and job satisfaction. Issa(2022) meanwhile argue that techno-uncertainty has become obsolete among technostressors in the era of disruptive technologies, and it has been conceptually replaced by 'techno-unpredictability.'

Multiple emerging constructs have been documented in recent studies. Constant connectivity to work (Baek et al., 2024), fear of missing out (Marsh et al., 2024), digital fatigue (Kemp et al., 2024), off-balance fatigue/virtual relations fatigue (Bonanomi et al., 2021), information anxiety (Adebamiro & Popoola, 2021), AI anxiety (Soomro et al., 2024), telepressure (Semaan et al., 2025), communication platform strain (Fortagne et al., 2024), technological work burnout (Alhammedi et al., 2024), digital communication overload (Bakhai et al., 2022), ICT-hassles (Christensen, Knardahl, & Nielsen, 2024), techno-incertitude (Ranathunga & Rathnakara, 2022), techno-unpredictability (Issa et al., 2024), and technosuffering (Dakin et al., 2025) were explored in various studies, showing associations with sleep problems, impaired cognitive skills, and reduced concentration (Baek et al., 2024; Fattori et al., 2024; Labarthe-Carrara et al., 2024; Molino et al., 2020; Pfaffinger et al., 2022; Shin et al., 2024; Suyo-Vega et al., 2024). Techno-fatigue and techno-anxiety were also sometimes treated as outcomes or core components of technostress.

While these studies emphasize the adverse effects of digitalized work environments, Willermark et al. (2023) provide a complementary perspective by introducing the concept of technorest (a state of recovery or relief facilitated by technology use in professional settings). Their findings suggest that some teachers, during the shift to remote teaching, experienced greater control over their environments and fewer interruptions, which enabled deeper focus and reduced stress. The authors conceptualize this through two mechanisms: techno-shields (technology-mediated barriers protecting against unwanted interactions) and techno-security (a sense of competence and stability in digital work). This perspective highlights that digital technologies can not only cause strain but also may create conditions that foster psychological recovery and professional growth.

4.2. Impacts on Well-being

4.2.1. Psychological well-being

Technostress is closely linked to adverse psychological outcomes, especially when chronic or intense. Many studies reported associations with anxiety, depression, burnout, and distress. Semaan et al. (2025) found workplace telepressure strongly predicted stress, depression, anxiety, and poor psychological detachment among Swiss employees. Similarly, García-González et al. (2020) identified mental overload, cognitive fatigue, and isolation as core burnout symptoms linked to technostress. Jimmy et al. (2023) showed that techno-invasion disrupts work-life balance and heightens burnout; while Tajeja et al. (2021) found technostress increased emotional exhaustion ($\beta = .34, p < .01$) and deviant workplace behaviors ($\beta = .28, p < .01$), with emotional intelligence buffering these effects. Sevic et al. (2025) further reported that techno-overload and techno-conflict explained 41 % of emotional exhaustion variance among Norwegian university employees. Collectively, these studies highlight technostress as a major predictor of burnout and emotional depletion in digitalized work environments.

4.2.2. Work-related well-being

Technostress has been increasingly recognized in occupational health research as a salient psychosocial risk factor influencing employee well-being. Empirical evidence indicates its adverse impact on

job satisfaction, engagement, and motivation across occupational domains. Within the education sector, studies have associated technostress with reduced work-related well-being among academic and teaching staff. Capone et al. (2024) identified the negative role of techno-complexity in job satisfaction, whereas Estrada-Araoz et al. (2023) and Mehtälä et al. (2023) highlighted experiences of fatigue, anxiety, and impaired work-life balance. Similar patterns have been observed in knowledge-intensive professions, where rapid technological change and performance demands exacerbate stress experiences (Kot, 2022). In healthcare settings, digital communication pressures have likewise been linked to burnout and decreased job satisfaction (Bail et al., 2023; Veiga et al., 2022). Collectively, these findings suggest that technostress constitutes a cross-sectoral challenge requiring comprehensive organizational strategies to safeguard employee well-being. An overview of sector-specific manifestations is provided in Sector-Specific Findings.

4.2.3. Cognitive and emotional fatigue

Alongside its negative influence on workplace well-being, technostress has been identified as a key contributor to emotional exhaustion and cognitive strain. Sommovigo et al. (2023) described it as a systemic drain on mental resources that heightens fear sensitivity and maladaptive work behaviors. Muhamad et al. (2025) reported associations between technostress, burnout, fatigue, and extended device use among Malaysian healthcare workers. Similarly, Kemp et al. (2023) linked digital fatigue and socially prescribed perfectionism to mental resource depletion, while emphasizing the protective role of organizational and personal resources. In education, Estrada-Muñoz et al. (2020) found that inadequate support for digital adaptation led to techno-anxiety and techno-fatigue among teachers, a pattern echoed in García-González et al. (2020). Bonanomi et al. (2021) identified two forms of online fatigue (off-balance and virtual-relations) associated with psychosomatic and psychological strain, particularly among female academics with children. Ghasemi et al. (2021) similarly observed that technostress, combined with family pressures, impaired mental health and motivation. Overall, evidence indicates that prolonged exposure to digital stressors undermines psychological health and work-life balance, underscoring the need for preventive organizational measures.

4.3. Mediators and Moderators

To fully grasp the implications of technostress, it is imperative to explore the mediating psychological mechanisms that link it to adverse mental health outcomes. As part of this systematic literature review, we sought to elucidate why and how technostress affects well-being, with a particular focus on mediating and moderating variables.

4.3.1. Coping strategies

A growing body of research emphasizes the crucial role of coping strategies as mediating and moderating variables in the relationship between technostress and mental health outcomes. As emphasized by Rigotti et al. (2021), personal coping resources and work-related resources/risk factors are critical when assessing employee well-being, especially during a crisis. This demonstrates that an employee's chosen coping strategy is equally as significant as the organizational resources and support available to them. To illustrate, maladaptive coping strategies, such as those utilized by Gaudioso et al. (2017), have been shown to intensify the negative effect of techno-overload on exhaustion, whereas adaptive coping strategies mitigate this effect. Similarly, Rastegar and Rahimi (2023) indicated direct connections between active positive, avoidant, and evasive coping mechanisms and burnout. Their findings underscore that avoidant strategies contribute negatively to teachers' well-being, while problem-focused strategies are effective in enhancing their mental health and mitigating strain.

Building on Lazarus and Folkman's coping theory, Pirkkalainen et al. (2017) demonstrated that distress venting served as a significant

moderator in the relationship between stressors and strain, particularly under conditions of low IT control. This finding suggests that emotional coping mechanisms, such as venting, can have adaptive value when instrumental resources are limited. In contrast, distancing from IT did not exhibit a significant moderating effect. These outcomes underscore the importance of context-specific coping strategies, highlighting the nuanced role of coping, where its effectiveness depends not only on type but also on environmental contingencies and available resources.

4.3.2. Social and organizational support

Scholars have increasingly recognized the buffering role of organizational, social, and leadership support in countering the negative implications of technostress. Nevertheless, it is worth highlighting that the moderating impact of empowering leadership diverges across technostress dimensions: while buffering the negative effects of the techno-invasion on emotional exhaustion, it paradoxically intensifies related feelings of techno-overload (Bauwens et al., 2021). Complementary evidence by Arslan and his associates (2022) indicated that organizational ICT support can effectively mitigate the negative outcomes of technostress for the psychological well-being of Turkish educators. Parallel results have been reported in studies where training and technical support lessen techno-anxiety and techno-fatigue (Rey-Merchán and López-Arquillos, 2022), and alleviate mental disengagement (Pfaffinger et al., 2022). Alshammari and Hilmi (2024) identified supervisor support and job clarity as 'catalysts' owing to their pivotal role in mitigating the detrimental effects of technostress on job satisfaction.

Meyer and Tisch (2023) emphasized the critical role of supervisory support and job autonomy in diminishing burnout symptoms driven by technological disruptions. Specifically, they contended that reliable technology and technical support can help minimize employee stress. As suggested by Ibrahim et al. (2021), employees benefit from well-designed procedures and ICT because they save time and effort, maintain work-life balance, and reduce techno-invasion, strain, and addiction. ICT, therefore, should be consistent with and support the organization's safety culture. Harunavamwe and Ward (2022) also indicated that offering organizational support and implementing policies that promote work-life balance enable employees manage technostressors more effectively and improve workplace flourishing. This protective effect is further confirmed by domain-specific findings. In Nuutinen and Bordi's (2025) study, school-level support was shown to moderate the adverse effects of technostrain by reducing cynicism and feelings of inadequacy, while also enhancing work engagement under high ICT demands.

In the context of corporate environments, employer mental health support and access to mental health care have been shown to mitigate digital fatigue among B2B sales professionals (Kemp et al., 2024). Complementing this, Wahl et al. (2024) also found that emotional and informational supportive team communication attenuated ICT-induced strain (Wahl et al., 2024), confirming the multi-level importance of support as a moderator (Day et al., 2012; Oksanen et al., 2022; Soomro et al., 2024; Wang et al., 2023). These findings, it is clear that support functions as more than just a contextual factor; rather, it plays a pivotal moderating role in how technostress translates into psychological and organizational outcomes.

4.3.3. Individual differences

Technostress is not a uniform experience but varies according to individual characteristics such as age, gender, psychological resilience, and digital literacy. Age has emerged as a complex predictor of well-being. Younger employees have been linked to lower well-being and higher anxiety (Thurik et al., 2024; Oksa et al., 2023), whereas older employees often report less exhaustion (Marrinhas et al., 2023). While some studies suggest that older workers struggle more with digital adaptation (Martin et al., 2022), others, including Ragu-Nathan et al. (2008), argue that greater tenure and expertise may buffer ICT-related stress, highlighting the need for age-sensitive support strategies.

Gender also shapes technostress experiences. Female educators and academics have reported higher levels of techno-fatigue and techno-anxiety (Estrada-Muñoz et al., 2021; Spagnoli et al., 2020), often linked to caregiving roles and unequal domestic responsibilities (Koç & Gasimov, 2023; Mordi et al., 2024). Stereotype Threat Theory (Spencer et al., 1999) further explains how gendered perceptions of technology can amplify women's stress, though some research finds no gender differences (Curcuruto et al., 2023). Gemmano et al. (2023) added that in dual-earner households, technostress may heighten work-family conflict, with variations shaped by cultural norms. Beyond demographics, psychological resources play a buffering role. Technostress correlates negatively with self-efficacy and traits such as openness and conscientiousness, but positively with neuroticism (Urukovičová et al., 2023). Personality configurations influence burnout responses (Khedhaouria & Cucchi, 2019), while psychological capital and self-efficacy mitigate the effects of technostress on burnout and work-life balance (Ma et al., 2021; Sharma & Tiwari, 2023).

4.4. Contextual Findings

4.4.1. Geography-wise overview

A total of 17 countries reported four or more studies, indicating a relatively higher level of research activity. These countries represent the primary contributors to the evidence base in the review. A visual representation of these countries and their respective study counts is presented in Fig. 2.

The geographic distribution of the studies reveals strong representation from European countries, particularly Germany (n = 22), Italy (n = 21) and the UK (n = 11). The United States also demonstrates a high level of contribution (n = 11), confirming its continued relevance in technostress and well-being research. In Asia, India (n = 16), China (n = 10), Pakistan (n = 6), and South Korea (n = 6) show growing engagement with the topic, reflecting the global spread of digital work environments. Contributions from developing countries, while present, remain limited. Notably, ten studies did not specify the geographic origin of their participant samples, which poses a limitation for assessing global representation. Additionally, several studies referred only to broad or ambiguous regional descriptors such as 'EU countries', 'alumni of two leading business schools from Europe and Asia', or 'MTurk workers' without specifying individual nations. Due to the lack of clear national attribution, these studies were not included in the country-specific counts presented above, although they were considered in the overall review.

The analysis indicates that sectoral emphasis varies across countries. Specifically, Italy and Spain exhibit a concentration of studies within the education sector, whereas Germany and Switzerland predominantly focus on healthcare. In contrast, countries such as the United States and

India demonstrate a greater tendency to conduct research across multiple sectors.

Cross-national studies reveal significant differences in the outcomes of technostress. For instance, Bottaro et al. (2025) observed that Maltese employees experienced significantly greater techno-invasion and lower well-being than their Italian counterparts, indicating cultural norms about the penetration of technology into work-life boundaries vary. In the media and communication sector, Ninaus et al. (2015) conducted semi-structured interviews with participants from Austria and Hong Kong. While Austrian respondents reported stress linked to an internalized sense of obligation, those who are from Hong Kong expressed their stress driven by external pressure, like customer demands. Their study exemplifies how crucial it is to take cultural context into account when evaluating technostress and its effects on employee well-being. As noted by Mohammed(2022), technostress does not universally harm well-being; during COVID-19, it may have even been neutral or motivational in Iraq. Collectively, all these findings underscore culture as a critical lens for understanding technostress heterogeneity globally. Despite the growing body of cross-national research, there remains a lack of studies that explicitly compare cultures, which limits our understanding of how technostress manifests in different sociocultural contexts.

4.4.2. Sector-specific findings

Approximately 40 % (84 studies) of the reviewed studies were conducted across diverse industries, encompassing employees from multiple sectors rather than focusing on a single occupational domain. This reflects a growing recognition of technostress as a cross-cutting phenomenon affecting the broader workforce. However, among studies that targeted a specific sector, the most frequently examined domains were education (49 studies), healthcare (24 studies), IT/knowledge workers (7 studies), public administration (6 studies), hospitality (5 studies), banking (4 studies) and manufacturing (3 studies). This distribution likely reflects both the sectoral variation in digital transformation intensity and the differing demands placed on workers during and after the COVID-19 pandemic. In order to capture the nuanced dynamics of technostress in different work environments, sector-based findings are presented in Table 5:

4.4.3. Temporal and post-pandemic trends

Given the significant transformations triggered by the pandemic, notably the pervasive move to remote and hybrid work, we incorporated pandemic-era studies into our literature review. This inclusion is justified by the substantial increase in research during this period and the recognition that the pandemic served as a critical turning point in understanding and encountering technostress. The crisis significantly reshaped individuals' interaction with digital tools, altered

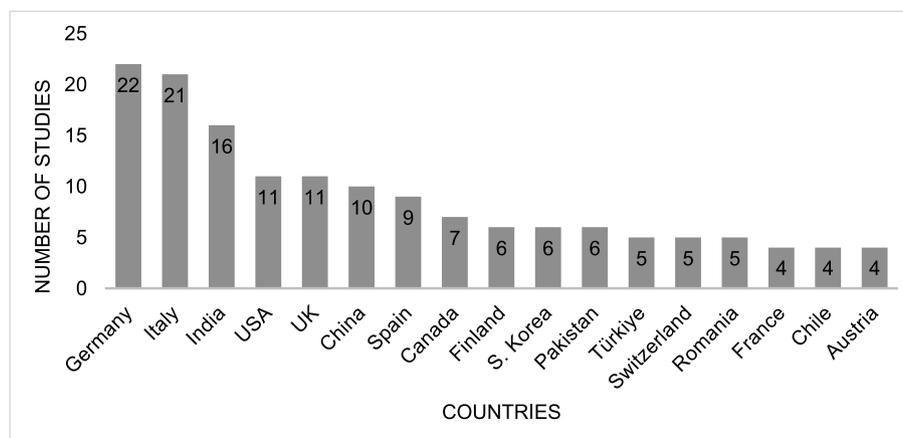


Fig. 2. Countries with substantial empirical representation (n ≥ 4).

Table 5
Sectoral differences in technostress and well-being outcomes.

Sector	Dominant Technostress Factor(s) – some typos have been corrected	Primary Associated Outcomes	Interpretive Mechanism ** verbs have been changed to present tense	Representative References
Education	Techno-overload, techno-invasion, techno-complexity	Burnout, work-life imbalance, fatigue	Academics face techno-overload from increased ICT use, requiring them to work faster and longer; techno-invasion, as constant connectivity blurs work-life boundaries; and techno-complexity, due to the effort and time needed to learn and manage various digital tools.	Mordi et al., 2024; De Oliveira Malaquias & De Souza Júnior, 2023; Harunavamwe & Ward, 2022; Califf & Brooks, 2020
Healthcare	Techno-overload, techno-uncertainty	Burnout, emotional exhaustion, job dissatisfaction	Redundant administrative tasks, unreliable technology and external controls heighten cognitive load. Interventions aimed at streamlining bureaucracy and improving technical support would most effectively alleviate this stress.	Würtenberger et al., 2025; Keshavarz et al., 2025; Bernburg et al., 2025; Golz et al., 2024
IT	Techno-invasion	Work-home conflict, exhaustion, turnover intention	'Always-on' culture and blurred work boundaries cause emotional depletion; job self-efficacy moderates negative effects.	Sharma & Tiwari, 2023; Ma et al., 2021; Chen & Karahanna, 2018; Maier et al., 2015
Hospitality	Information overload, techno-invasion	Decreased well-being	Increased job intensity, constant digital customer interaction and blurred time boundaries undermine employee rest and motivation.	Nayak et al., 2025b; Ali, Nisar, & Nasir, 2023; Sharif et al., 2025
Banking	Techno-overload, techno-complexity, techno-insecurity	Burnout, anxiety, decreased employee engagement and job satisfaction	Continuous digital service pressure and multitasking intensify anxiety and reduce psychological well-being.	Alshammary & Hilmi, 2024; Xie & Yang, 2025; Kutlutürk Yıkılmaz et al., 2024; Hang et al., 2022
Manufacturing	Techno-invasion, techno-complexity, techno-unreliability	Burnout, anxiety, decreased life satisfaction	Digital communication induces interruptions, technical failures and unreliable systems disrupt workflow and contribute to frustration.	Meyer & Tisch, 2023; Soomro et al., 2024; Le Roux & Botha, 2021
Gig Economy	Techno-complexity, techno-invasion	Anxiety, reduced well-being, work-life imbalance	Algorithmic opacity and unpredictable feedback systems create insecurity and perceived unfairness, increasing stress.	Muhammed Ali & Sivasubramanian, 2024; Koç & Gasimov, 2023; Umair et al., 2023

organizational frameworks, and brought the psychological impacts of technology use into sharp focus. Boundary control and remote work emerged as both opportunities and challenges, contingent on employer practices and individual capabilities (Rigotti et al., 2021).

Our research highlights the detrimental impact of technostress on well-being and performance in the era of the Coronavirus pandemic. For instance, Khedhaouria et al. (2024) found that technostress heightened user strain and subsequently diminished job satisfaction among individuals working remotely from home during the lockdown period. However, emotional social support acted as a buffer and mitigated these adverse effects. Oksanen et al. (2022) indicated that psychological distress, perceived loneliness, and technostress at work all had within-person effects on COVID-19 anxiety. Authors identified self-regulation as a protective factor, emphasizing the buffering role of existing individual resources during adverse circumstances. All these factors also demonstrated between-person effects, pointing out individual differences. Additionally, their findings showed that lower social support was associated with higher COVID-19 anxiety, reinforcing its value as a protective factor for subjective well-being during stressful periods. Labarthe-Carrara et al. (2024) emphasized that organizational trust plays a critical role during periods of change, such as the post-COVID-19 era, in fostering positive psychological states among teachers. They found that trust does not directly influence well-being, but rather exerts its effect indirectly through job demands as well as personal and organizational resources.

Savolainen et al. (2021) emphasized how technostress exacerbated pandemic-specific anxiety through mechanisms like information overload, constant connectivity, and virtual meeting fatigue, with outcomes intensified by neuroticism, psychological distress, and lack of support. In a similar vein, Camacho and Barrios (2022) identified work overload and work-home conflict as the main stressors during COVID-19 lockdowns, which triggered severe emotional strain and eventually decreased self-perceived job performance and telework satisfaction. Schmitt et al. (2021), meanwhile, stated that text-based online tools tend to increase cognitive overload, which negatively affects well-being but not work performance. They noted that such effects are not seen with videoconferencing tools, where digital detox appears to help buffer

any potential downsides. The findings of Singh et al. (2022) further demonstrated that technology use for both personal and professional purposes raised techno-exhaustion, which lowered workers' subjective well-being. This study showed that factors such as resilience and remote work experience reduced this negative impact. Similar observations were reported by Vergine et al. (2022), who found that technostress creators increased information system (IS) related distress while decreasing IS-related eustress among teachers during emergency remote teaching.

5. Discussion

5.1. Key insights into the technostress and well-being relationship

This review highlights the multidimensional nature of technostress and its implications for employee well-being. Synthesizing evidence from 201 empirical studies, it demonstrates that technostress results from the interplay of digital demands, contextual resources, and individual characteristics. Consistent with prior research, techno-overload and techno-invasion have emerged as the strongest predictors of emotional exhaustion, burnout, and reduced job satisfaction (e.g., Bernburg et al., 2024; Jimmy et al., 2023; Marsh et al., 2024; Mehtälä et al., 2023; Picone et al., 2024; Sevic et al., 2025). At the same time, some studies show that digital demands can become motivating when individuals experience high competence or autonomy (Datta et al., 2024; Issa et al., 2024; Meyer & Tisch, 2023), suggesting that technostress operates along both detrimental and adaptive pathways.

The DRIVE model, which guided the present analysis, provides a coherent framework to interpret these dynamics by integrating job demands, coping, and individual differences. Recent findings on leadership and trust (Jaiswal et al., 2024; Khan, 2023; Ly & Ly, 2024) further illustrate how contextual and personal factors jointly shape stress outcomes. Notably, personality traits appear to be critical moderators of these processes. As shown by Khedhaouria and Cucchi (2019), distinct configurations of traits such as extraversion, neuroticism, openness, and conscientiousness influence how employees perceive technostress creators (e.g., role ambiguity, workload) and experience burnout. This

resonates with the DRIVE model's emphasis on the interaction between demands, resources, and individual characteristics.

Future technostress and well-being studies should therefore apply the DRIVE framework more deliberately, integrating personality-informed approaches and validated tools such as the WPQ (Williams & Smith & Smith, 2019). Such integration would enhance theoretical coherence, support personalized prevention strategies, and deepen understanding of how digital demands and individual dispositions jointly determine employee well-being in technology-intensive work contexts.

5.2. Support as a strategic buffer against technostress

Evidence across sectors make it clear that social and organizational support are not secondary considerations, but pivotal moderators that can offset the negative effects of technostress on well-being. Emotional and informational support (e.g., Khedhaouria et al., 2024; Wahl et al., 2024), digital leadership (Alkhayyal & Bajaba, 2024), digital training (e.g., Rey-Merchán and López-Arquillos, 2022), and perceived organizational support (e.g., Harunavamwe & Ward, 2022; Nayak et al., 2025a) were consistently linked to reduced exhaustion, enhanced work engagement, and improved digital resilience. Nonetheless, the direction and strength of support effects differ by technostress dimension. To illustrate, while empowering leadership mitigated techno-invasion, it unexpectedly amplified techno-overload (Bauwens et al., 2021), suggesting the need to disaggregate support strategies based on the nature of the digital stressor.

Despite the breadth of the reviewed literature, encompassing a wide range of professional sectors and working populations, the exploration of how technostress takes shape across different occupational contexts is surprisingly limited. The majority of research in this field treats the workforce as a homogeneous group. This oversight may stem from a failure to consider how job-specific demands, cultural norms, and digital infrastructures shape employees' experiences of digital strain. Xie and Yang's (2025) study, for example, is a valuable contribution by demonstrating that industry-specific cognitive demands can significantly shape technostress outcomes, revealing that a one-size-fits-all approach to intervention may be insufficient.

While digital work has attracted growing interest across sectors and geographies, longitudinal studies remain scarce, with only 18 identified in this review. This limits our understanding of how digital work practices evolve over time, particularly in response to organizational or societal changes. This insight may reinforce the necessity for experimental, longitudinal, and sector-specific research to determine how well formal support interventions such as leadership training, coaching, and digital autonomy policies perform in the long run.

5.3. Theoretical, methodological, and practical contributions

The contributions of this review are multifaceted, offering a synthesis of existing literature while providing a clear roadmap for future inquiry. By identifying gaps in current frameworks and tools, this work establishes a robust foundation for understanding the evolving relationship between technology and psychological well-being.

5.3.1. Theoretical contributions

This research significantly advances existing scholarship by reframing technostress as a dynamic, multifaceted construct characterized by both detrimental and adaptive pathways. Moving beyond traditional static models, this work introduces the DRIVE model as a robust integrative lens. This framework is particularly effective in bridging the gap between external environmental stressors and internal psychological dimensions, offering a holistic view of the stress and well-being relationship. By prioritizing theoretical flexibility over rigid categorization, this approach accommodates the fluid nature of evolving digital ecosystems. Such a foundation is essential for investigating emerging constructs, including digital telepressure and technostrain, ensuring that

theoretical development keeps pace with rapid technological innovation and the shifting boundaries of the modern workplace.

5.3.2. Methodological contributions

On a methodological level, this review provides a comprehensive synthesis of 201 studies, allowing for the identification of clear patterns and persistent blind spots in empirical design. The analysis highlights a critical underuse of longitudinal and cross-cultural methods, signaling a need for future research to prioritize temporal and role-specific analyses to capture the long-term effects of technostress. A key contribution to the methodological toolkit is the promotion of the WPQ. Grounded in the DRIVE model, the WPQ enables researchers to efficiently assess job demands, individual traits, and well-being outcomes without sacrificing measurement quality. Its brief, single-item structure allows for deployment in fast-paced or digitally intensive environments, offering an alternative to long-form surveys often unsuitable in real-world settings.

5.3.3. Practical contributions

The practical implications of this study provide actionable guidance for organizational interventions and the design of digital well-being programs. By distinguishing between specific stressor profiles, this review enables the development of targeted, rather than generalized, intervention strategies. This is particularly relevant for the management of hybrid workforces and high-responsibility roles where digital tethering is prevalent. Furthermore, the findings encourage a shift toward proactive organizational diagnostics. By integrating agile assessment tools like the WPQ into routine human resource audits, organizations can achieve more responsive, real-time interventions. Such a shift from reactive to preventive management allows for the mitigation of technostress before it manifests as clinical burnout or organizational turnover.

5.4. Limitations of the present review

When interpreting the results of this study, it is essential to consider the following limitations: Potential omissions may exist owing to database constraints, search terms not appearing in article titles or keywords, or human error. Thus, it is possible that some articles pertaining to this subject may have been omitted from the study. Similarly, the search strategy may not have fully captured emerging constructs like telepressure, technosuffering, and technostrain. Future reviews should expand their scope to incorporate these aspects for a more complete understanding of technostress.

Furthermore, our review was constrained to English-language publications that have been indexed in Pubmed, WOS, and Scopus. Consequently, studies published in other languages or in journals with lower impact factors may have been excluded, potentially resulting in bias due to language and indexing. Grey literature was also excluded, possibly missing innovative practices and insights that have not yet been disseminated through peer-reviewed journals. These constraints may result in the narrowing of the scope and global applicability of the findings. To capture broader innovations and enhance methodological diversity, future researchers should diversify their sources by incorporating more databases, and multilingual literature.

6. Conclusion

Technostress has become a substantial concern influencing employee well-being since digital technologies become more integrated into organizational life. Drawing from the empirical studies, this systematic review maps the established patterns of subject relationship and pinpoints where our understanding still falls short. Notably, the impact of technostress was particularly severe and disruptive during the early stages of the COVID-19 pandemic, when organizations and employees were forced into rapid digital adaptation. While some degree of normalization has since occurred, the challenges associated with digital

demands remain highly relevant.

To advance the study of technology-mediated work, future research should apply the DRIVE model to investigate how digital demands and personal resources interact to affect well-being. Researchers can streamline data collection in large-scale studies by employing the WPQ, which assesses technostress outcomes while minimizing respondent burden. Additionally, expanding the DRIVE framework to include emerging variables, such as digital boundary management and platform-based job structures, will ensure the model remains relevant to modern work environments.

Understanding the nuances of these stressors requires a focus on both cultural and organizational structure. Cross-cultural comparisons can reveal how national norms and institutional contexts shape technostress appraisal, while differentiating between occupational sub-roles, such as managerial and operational positions, will help identify specific stress profiles. To capture these dynamics over time, studies should utilize longitudinal and experience sampling designs to track how fluctuations in technostress impact emotional exhaustion and psychological recovery.

In addition to future research needs, practical implications must also be addressed. The impact of digital demands on employee well-being is not uniform; it is influenced by demographic factors such as age and digital proficiency, job characteristics, and broader cultural and regulatory contexts. To respond effectively, organizations should invest in comprehensive support systems that include digital skills training, accessible mental health services, and structured career transition programs for employees in roles vulnerable to automation. Simplifying digital tool environments is equally essential. This includes eliminating redundant platforms, clarifying communication protocols, and encouraging digital detox practices that support cognitive recovery and focus.

For policymakers and HR professionals, these findings argue for differentiated intervention strategies. Technostress related indicators should be regularly monitored through employee feedback systems. Organizational leaders should actively facilitate this transition by providing adequate resources, targeted training, modeling healthy digital behavior, and fostering a workplace culture rooted in psychological safety. At the policy level, technostress should be formally recognized as an occupational health issue, with frameworks that promote regular digital strain assessments and institutional accountability. Aligning digital transformation with human-centered leadership and well-being strategies is critical to building resilient, inclusive, and sustainable work environments.

CRediT authorship contribution statement

Ezgi Mansuroğlu: Writing – review & editing, Writing – original draft, Visualization, Methodology, Funding acquisition, Conceptualization. **Andrew P. Smith:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Conceptualization.

Ethics approval

Not applicable.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the authors used [ChatGPT] in order to proofread. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

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Data availability

Data will be made available on request.

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