

Digital-Age Psychosocial Strain: A Systematic Literature Review of Conceptual Dimensions, Measurement Approaches, and Emerging Research Directions

Habib Rahim^{1,2*}, Liley Afzani Saidi¹

¹Faculty of Defense Studies and Management, National Defense University of Malaysia, Kuala Lumpur, Malaysia

²Faculty of Education and Humanities, UNITAR International University, Selangor, Malaysia

*Corresponding author

DOI : <https://doi.org/10.47772/IJRISS.2026.102400020>

Received: 21 August 2026; Accepted: 26 August 2026; Published: 25 September 2026

ABSTRACT

The rapid growth use of digital technologies has created new psychosocial challenges that are discussed using variety of terms, such as technostress, digital stress, digital burnout, AI fatigue, and other forms of technology-related strain. However, previous studies often use different definitions, dimensions, and measurement methods, which makes it difficult to clearly understand how these constructs are related. Thus, this review aimed to examine the main features of existing studies and identify common and different dimensions across technology-related psychosocial strain constructs. The review also adopted the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines. A systematic search was conducted involving 3 databases which are Scopus, Web of Science, and ScienceDirect. A total of 324 records were identified, and 24 empirical studies published between 2022 and 2026 were included after duplicate removal, screening, eligibility assessment, and quality appraisal process. Majority of the studies adopted quantitative approaches and centered on developing, validating, or adapting instruments for specific technology-related constructs. The findings highlighted in six recurring dimensions: technology demands, information and communication pressure, work-life and social pressure, emotional and cognitive strain, behavioral and adaptive responses, and privacy and security concerns. Despite multiple terms identified across studies, many of the dimensions reflect some likeness between their meanings and patterns. The review also portrayed that current research still vary in the way these constructs are defined and measured, which indirectly highlight the need for clearer and more consistent measurement approaches and provides a useful basis for future research on Digital-Age Psychosocial Strain and the development of a more thorough psychometric instrument.

Keywords: Digital-Age Psychosocial Strain, technostress, digital stress, digital burnout, SDG

INTRODUCTION

The accelerated integration of digital technologies into our daily life has changed how individuals communicate, learn, work, and interact with one another. Despite digital technologies providing many benefits, their increasing use has also been repeatedly associated with technology-related strain, emotional burden, cognitive tiredness, and difficulties in maintaining healthy work-life boundaries (Colledani et al., 2025; Kaltenegger et al., 2024; Nuutinen & Bordi, 2025). Over the years, researchers have been able to analyze these experiences through different constructs, including technostress, digital stress, digital burnout, everyday technostress, and AI fatigue (Urukovičová et al., 2023; Colledani et al., 2025; Zhao et al., 2026; Lau et al., 2026). These constructs also have been found in multiple settings not limited to occupational and educational yet also the general populations, with several studies developing or validating instruments for specific technology-related experiences. Although they vary in definitions and measurement approaches, they all still share some similarities such as technology appealing, emotional and cognitive burden, information pressure, and behavioral responses.

Despite the thrive of literature, these related constructs remain conceptually fragmented where different studies use different definitions, dimensions, and instruments to examine experiences that may overlap. This also would make the differentiation across studies becoming more difficult. Hence, this review synthesizes existing literature targeting to identify common and distinct dimensions across related constructs and provide a clearer groundwork for understanding digital-age psychosocial strain and developing a comprehensive measurement framework. The SPIDER model, introduced by Cooke et al. (2012), was adopted due to its ability to provides a structured approach for developing research questions in systematic literature reviews, especially those investigating complex concepts and empirical evidence beyond intervention-based research. Unlike the PICO framework, which is mostly designed for clinical related studies, SPIDER is better approach to reviews where the major focuses on conceptual, methodological, and measurement-related evidence.

Table 1: Spider model

N o .	SPIDER Model Element	Content in the Study
1	S: Sample	People from groups such as students, workers, teachers, and regular adults who took part in research about stress in the digital era or similar topics.
2	PI: Phenome non of Interest	The strain experienced because of the digital age and related factors, such as technology-related stress, burnout from excessive online activity, and fatigue caused by information overload. This includes definitions, dimensions, components, and methods of measurement.
3	D: Design	Empirical studies using quantitative methods, qualitative methods, mixed-method approaches, or psychometric instrument development and validation designs.
4	E: Evaluatio n	Conceptual definitions, construct dimensions, psychometric properties (e.g., validity and reliability), and the development or validation of measurement instruments related to digital-age psychosocial strain.
5	R: Research Type	Original empirical research involving instrument development, psychometric validation, scale adaptation, or quantitative and qualitative investigations related to digital-age psychosocial strain.

The research questions of this systematic literature review were guided based on the SPIDER model presented in Table 1 to ensure a systematic, transparent, and structured alignment between the study scope, research objectives, and data synthesis process.

1. What are the characteristics of studies investigating digital-age psychosocial strain and related constructs in terms of their research objectives, research design, samples, key findings, and research limitations?
2. What common and distinct conceptual dimensions can be identified across existing digital-age psychosocial strain-related constructs?

LITERATURE REVIEW

Digital-Age Psychosocial Strain: Concept and Theoretical Background

Digital technologies have become essential factor not just in the workplace and education yet also in our day-to-day activities. Despite providing benefits such as wider accessibility and connectivity, excessive digital use has also been correlated with stress, information overwhelms, cognitive burden, emotional exhaustion, and Reduced well-being (Colledani et al., 2025; Kaltenegger et al., 2024; Nuutinen & Bordi, 2025). Over reliance on digital devices has also been found to strongly correlate with difficulties in ability to remain focus and retaining information especially among younger users (Burhan & Mohamad, 2026). Psychosocial strain in digital setting may arise from excessive technology needs, continuous connectivity, information and communication pressure, and ambiguity surrounding digital systems. These experiences have been documented through multiple constructs such as technostress, digital stress, digital burnout, and AI fatigue (Urukovičová et al., 2023; Sevic et al., 2024; Zhao et al., 2026; Lau et al., 2026). Although these constructs

vary in their definitions and contexts, they all highlighted the overlapping psychological, cognitive, emotional, and behavioral responses when it comes to using digital technology. However, there is yet to be a widely approved conceptualization of digital-age psychosocial strain. Recent research has mainly focused on specific constructs using context-specific measures, which results in variation in definitions, dimensions, and measurement approaches. This fragmentation resulted in comparisons across more complex studies and highlighted the need to synthesize existing evidence to establish common and distinct dimensions.

Related Constructs and Conceptual Dimensions of Digital-Age Psychosocial Strain

Technostress is one of the most prominent constructs in this area and has commonly been investigated through technology-related demands such as overload, invasion, complexity, insecurity, and ambiguity (Urukovičová et al., 2023; Arenas et al., 2023; Salazar-Concha et al., 2022). Modern research has broadened beyond workplace technostress to daily digital experiences. Studies of digital stress and everyday technostress have classified concerns such as information overload, communication tension, availability appeal, online alertness, privacy, and social pressure (Sevic et al., 2024; Colledani et al., 2025; Zhang et al., 2023). Contemporary studies have also presented constructs such as digital burnout and AI fatigue, which center more on the consequences of continuous digital engagement. Digital burnouts involve exposure such as emotional tiredness, cognitive overwhelm, digital deprivation, and behavioral difficulties, whereas AI fatigue highlights mental, emotional, behavioral, and physical exhaustion related to usage of AI (Zhao et al., 2026; Lau et al., 2026).

In addition, other studies have also investigated managing and adaptive responses to technology-related demands, further showing that digital strain may result with not just psychological experience but the behavior aspect as well. (Nascimento & Correia, 2025). To summarize, the literature showed numbers of overlaps across these constructs. While some focus on technology demands, others focus more on communication, emotional and cognitive pressure. Not to mention greater emphasis also given on the behavioral responses and privacy concerns aspect. This overlap further strengthens the need to examine these constructs together rather than as separate phenomena.

Measurement of Digital-Age Psychosocial Strain-Related Constructs

The developing interest in technology-related psychosocial involvement has led to the development and validation of several measurement instruments. Many studies focused on specific constructs, including technostress, digital stress, digital burnout, daily technostress, and AI exhaustion, rather than measuring digital-age psychosocial strain as a bigger and wider construct (Urukovičová et al., 2023; Colledani et al., 2025; Zhao et al., 2026; Lau et al., 2026). Numerous studies used EFA, CFA, reliability analysis, and validity testing to demonstrate the quality of their instruments. Several also used existing measures across countries and populations, establishing the growing psychometric attention focusing on technology-related strain (Arenas et al., 2023; Geris et al., 2026; Verde-Avalos et al., 2025). However, current instruments stay largely on construct- and context-specific. Measures have been developed for employees, educators, higher education students, entrepreneurs, working professionals, and other specific populations. This restricts direct comparison across studies and may limit their relevancy to broader digital populations. Hence, the literature suggests the need for a more integrated measurement approach that highlight the common dimensions of digital-age psychosocial strain.

METHODOLOGY

This study adopted a Systematic Literature Review (SLR) proposed by the PRISMA 2020 framework to ensure a systematic and transparent review process (Page et al., 2021). Searches were conducted in Scopus, Web of Science (WoS), and ScienceDirect databases using keywords and Boolean operators related to digital-age psychosocial strain, technostress, digital stress, digital burnout, information overload, and related constructs. The review was completed through multiple stages such as identification, screening, eligibility, and inclusion. A total of 324 records were retrieved at the initial process. However, some of the literatures were removed due to its duplication in the databases, followed by publication year (2022–2026) and which were not in Psychology. The remaining records were screened by title and abstract, followed by full-text assessment based on the predetermined inclusion and exclusion criteria. The selection process is presented in Figure 1. Studies were included if they were journal articles published in English language between 2022 and 2026, indexed in

Scopus, Web of Science, or ScienceDirect, with reported empirical findings related to psychological or psychosocial experiences associated with digital technology consumption. Some of the exclusions criteria were conference proceedings, book chapters, editorials, dissertations, review papers, and unrelated studies. Following the selection process, 24 studies were finalized for the final synthesis.

The methodological quality of the included studies was assessed using an approach adapted from Abouzahra et al. (2020). Six criteria were assessed: research objectives, practical relevance, methodological transparency, conceptual appropriateness, engagement with existing literature, and discussion of the research limitations. Each criterion was scored on a three-point scale, and studies exceeding the predetermined quality threshold were retained and the used in the analysis. Table 2 presents the search strings used to identify relevant studies across the three databases.

Table 2: Search strings used for the systematic review process

Database	Boolean Operator / Search Strategy Used
Scopus	TITLE-ABS-KEY (("Digital Stress" OR "Digital Psychosocial Strain" OR Technostress OR "Digital Fatigue" OR "Social Media Stress" OR "Online Stress" OR "Digital Overload" OR "Information Overload" OR "Information Fatigue" OR "Digital Burnout" OR "Technological Stress" OR "Technology-Induced Stress" OR "ICT Stress") AND (Instrument OR Scale OR Questionnaire OR Survey OR Inventory OR Measure OR Measurement OR Assessment OR Psychometric OR Validation)) AND (LIMIT-TO (SUBJAREA, "PSYC")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (OA, "all")) AND PUBYEAR > 2021 AND PUBYEAR < 2027
Web of Science	TS = ("Digital Stress" OR "Digital Psychosocial Strain" OR Technostress OR "Digital Fatigue" OR "Social Media Stress" OR "Online Stress" OR "Digital Overload" OR "Information Overload" OR "Information Fatigue" OR "Digital Burnout" OR "Technological Stress" OR "Technology-Induced Stress" OR "ICT Stress") AND TS = (Instrument OR Scale OR Questionnaire OR Survey OR Inventory OR Measure OR Measurement OR Assessment OR Psychometric OR Validation) + Publication Years: 2022–2026 + Language: English + Web of Science Category: Psychology Multidisciplinary + Document Type: Article + Open Access: All Open Access
ScienceDirect	TITLE ("Digital Stress" OR Technostress OR "Digital Fatigue" OR "Digital Burnout" OR "Social Media Stress") AND (Scale OR Questionnaire OR Psychometric OR Validation)

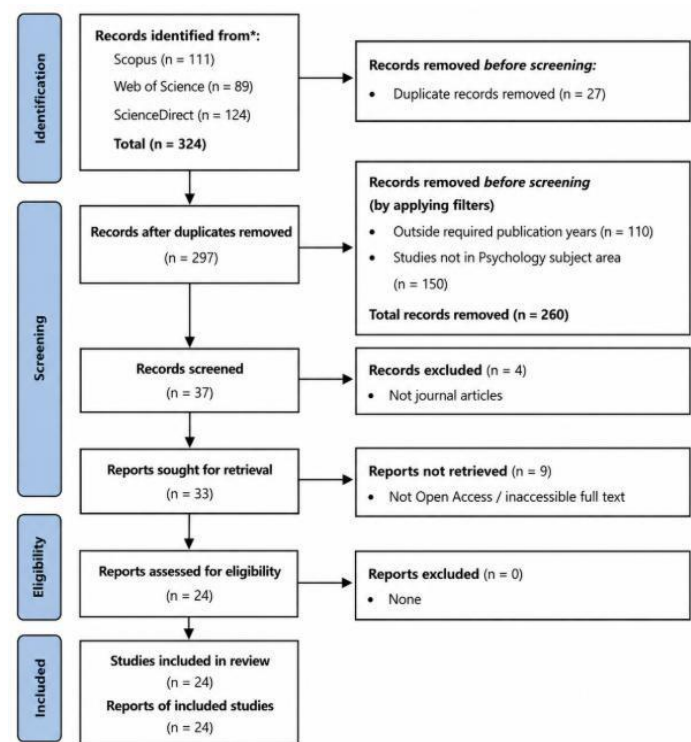


Figure 1. PRISMA 2020 flow diagram of the study selection process.

Identification

The search of Scopus, Web of Science, and ScienceDirect resulted with 324 records: 111 from Scopus, 89 from Web of Science, and 124 from ScienceDirect. After that, 27 findings were removed due to duplication records, publication-year not within the required year and not in the Psychology subject-area. These exclusions removed 110 records based on publication year and 150 records based on subject area, leaving only 37 records for screening.

Screening

The titles and abstracts of the 37 records were screened for suitability. Four records were excluded because they were not journal articles, leaving 33 reports for full-text retrieval. Of these, nine could not be retrieved, which resulted in 24 full-text articles for next stage eligibility assessment.

Eligibility and Inclusion

The 24 full-text articles were assessed based on the predefined criteria. Following eligibility assessment and quality appraisal, 24 studies met all requirements and were included in the final synthesis.

Quality Appraisal

The 24 included studies were assessed using six criteria adapted from Abouzahra et al. (2020). Each criterion was rated as Yes (1), Partially (0.5), or No (0), with a maximum score of 6. Studies scoring above 3.0 were considered to have sufficient methodological quality. All 24 studies exceeded the threshold and were retained for synthesis.

Table 3 :Article Quality Appraisal Results

ID	QA1	QA2	QA3	QA4	QA5	QA6	Score	Decision
A1	1	1	1	1	1	1	6	Include
A2	1	1	1	1	1	1	6	Include
A3	1	1	1	1	1	1	6	Include
A4	1	1	1	1	1	1	6	Include
A5	1	1	1	1	1	1	6	Include
A6	1	1	1	1	1	0.5	5.5	Include
A7	1	1	1	1	1	1	6	Include
A8	1	1	1	1	1	0.5	5.5	Include
A9	1	1	1	1	1	1	6	Include
A10	1	1	1	1	1	1	6	Include
A11	1	1	1	1	1	1	6	Include
A12	1	1	1	1	1	0.5	5.5	Include
A13	1	1	1	1	1	1	6	Include
A14	1	1	1	1	1	1	6	Include
A15	1	1	1	1	1	0.5	5.5	Include
A16	1	1	1	1	1	1	6	Include
A17	1	1	1	1	1	1	6	Include
A18	1	1	1	1	1	1	6	Include
A19	1	1	1	1	1	0.5	5.5	Include
A20	1	1	1	1	1	0.5	5.5	Include
A21	1	1	1	1	1	1	6	Include
A22	1	1	1	1	1	0.5	5.5	Include
A23	1	1	1	1	1	1	6	Include
A24	1	1	1	1	1	1	6	Include

A = Article; QA = Quality Assessment Criterion.

The quality appraisal resulted with 17 studies (70.8%) achieved the maximum score of 6.0, while 7 studies (29.2%) scored 5.5. The partial scores were due to relatively limited discussion on the study limitations. Nevertheless, all 24 studies exceeded the predetermined quality threshold and were remained for the final synthesis.

Data Analysis

Data analysis consisted of two stages. First, a descriptive analysis outlines the study objectives, research designs, samples involved, research findings and limitations. Second, a thematic analysis identified recurring concepts and grouped them into several categories.

These categories were then synthesized into higher-order themes concerning conceptual segmentation, the multidimensional nature of digital-age psychosocial strain, and some of the limitations in current measurement approaches.

RESULTS

Development of Conceptual Themes and Dimensions of Digital-Age Psychosocial Strain Through Thematic Synthesis

Table 4 :Development of Higher-Order Themes Through Thematic Synthesis

Initial Codes	Categories	Higher-Order Themes for Discussion
Technostress, Digital Stress, Digital Burnout, AI Fatigue, Everyday Technostress, Technology-induced Stress	Related technology-induced psychosocial constructs	Theme 1: Existing Research on Digital-Age Psychosocial Strain Remains Conceptually Fragmented
Technology demands, techno-overload, techno-complexity, information overload, communication pressure, work-life conflict, emotional exhaustion, cognitive overload, behavioral responses, privacy concerns	Common conceptual dimensions of digital-age psychosocial strain	Theme 2: Digital-Age Psychosocial Strain Represents a Multidimensional Construct
Psychometric validation, reliability, validity, EFA, CFA, cross-cultural adaptation, scale development, construct-specific instruments	Measurement development and psychometric evidence	Theme 3: Existing Measurement Instruments Demonstrate Strong Psychometric Properties but Limited Conceptual Coverage
Conceptual synthesis, integrated framework, multidimensional construct, comprehensive assessment, future instrument development	Theoretical integration and research contribution	Theme 4: Overall Contribution of the Review

Overall, the thematic analysis synthesized the findings by grouping initial codes into broader categories and higher-order themes. This process helped identify relationships across the literature and address the research questions. The themes focused on conceptual fragmentation, the multidimensional nature of digital-age psychosocial strain, limitations of existing measurement approaches, and the contribution of the review.

Overview of Research Characteristics, Findings, and Limitations of the Included Studies

Table 5 :Critical Analysis of the Studies

Auth or (Year)	Research Objective	Research Design	Sample	Key Findings	Limitations / Gaps
Uruk	Validation of the	Cross-	692	Reinforced the five-factor	Single-country

ovičo vá et al. (2023)	Slovak Technostress Creators Inventory.	sectional psychometric validation	employed Slovak respondents	structure, with satisfactory reliability, validity, and gender invariance.	and occupational sample.
Cadi eux et al. (2024)	Validate the bilingual Techno-Stressors Index II and analyze the relationship between techno-stressors and techno-distress.	Scale validation and second-order formative modelling	Canadian legal professionals	Supported the TSI-II and its seven techno-stressors in explaining techno-distress.	Occupation-specific context.
Adh a et al. (2026)	Develop and validate a technostress scale for young businesspeople.	Scale development and validation	Young Indonesian entrepreneurs	Identified technology-, performance-, security-, and support-related dimensions of technostress.	Young entrepreneurs and single-country setting.
Harr er et al. (2024)	Identify factors related to individual benefits from a digital stress intervention.	Prognostic modelling using individual participant data from six RCTs	Participants with depressive symptoms	Models predicted differential benefits from digital stress intervention; interim depressive symptoms improved prediction.	Intervention-specific; further external validation and replication required.
Finst ad et al. (2026)	Develop and preliminarily validate a measure of technology-related moderators of technostress.	Scale development and preliminary validation	Employees from two Italian organizations	Developed a measure of factors that may influence resilience against technostress.	Preliminary validation and limited organizational setting.
Geri s et al. (2026)	Adapt the Short Digital Stress Scale into Turkish and assess its psychometric properties.	Translation and psychometric validation	276 Turkish adults	Supported the original five-factor structure and demonstrated satisfactory reliability and validity.	Single-country adult sample.
Porc ari et al. (2023)	Develop and validate the Work-Related Technostress Questionnaire.	EFA, CFA, reliability, and group analysis	2,586 Italian bank employees	Developed a 17-item, four-factor measure; technostress increased with age.	Banking-specific and Italian sample.
Cao et al. (2025)	Develop and validate a technostress construct for business-school faculty.	Psychometric scale development and validation	Business-school faculty in Pakistan	Identified technology-, individual-, organizational-, and supply-related factors and developed a context-specific construct.	Limited to business-school faculty in Pakistan.
Zhao et al. (2026)	Develop and validate a Digital Burnout Scale in the AI era.	Scale development, EFA, CFA, and reliability/validity	Students	Identified six dimensions: digital aging, emotional exhaustion, cognitive overload, cognitive dissonance, digital deprivation, and behavioral addiction.	Student-focused context.

		lidity testing			
Colle dani et al. (2025)	Develop a scale for technostress in daily life.	EFA, CFA, and cross-validation	602 adults from the general population	Developed a 20-item scale with four factors: techno-overload/invasion, complexity/uncertainty, insecurity/privacy, and relationships/isolation.	Further validation across populations and cultures is needed.
Nascimen to & Correia (2025)	Adapt and validate a flexible coping with technostress measure.	EFA, CFA, and psychometric validation	1,107 Portuguese higher-education teachers	Supported a one-dimensional, six-item scale with high reliability and validity.	Specific professional and cultural context.
Sevic et al. (2024)	Translate and validate the Digital Stressors Scale in Norway.	Translation, CFA, EFA, and validation	Norwegian employees	Proposed a shorter eight-factor, 37-item version after the original structure showed poor fit.	Convenience sample and Norwegian context.
Ortega-Jiménez et al. (2023)	Examine technostress and its correlation with mental health.	Cross-sectional quantitative study	Participants from Ecuador	Technostress dimensions included skepticism, fatigue, anxiety, and inefficiency and were associated with depression, anxiety, and stress.	Cross-sectional and self-report design.
Arenas et al. (2023)	Validate the Spanish Technostress Creators Scale and examine gender invariance.	EFA, CFA, and measurement invariance	931 Spanish employees	Replicated the five-factor structure and produced an 18-item scale with acceptable reliability.	Gender differences and country-specific validation.
Zhang et al. (2023)	Validate the Chinese Digital Stress Scale and develop a short form.	Psychometric validation and IRT analysis	Chinese college students	Supported the reliability and validity of the full and short Digital Stress Scales.	Validation focused on Chinese college students; adolescent validity requires further testing.
Verde-Avalos et al. (2025)	Validate the Technostress Scale for university students.	EFA and CFA	Peruvian university students	The 11-item version retained three dimensions and showed strong fit and internal consistency.	University-student and single-country context.
Salazar-Concha et al. (2022)	Validate the Spanish adaptation of the Technostress Creators Scale.	Psychometric validation	Chilean workers	Supported the five technostress dimensions, with techno-uncertainty and techno-overload showing relatively higher levels.	Context-specific Spanish adaptation.
Nuut	Analyze techno strain,	Cross-	323	Technostrain was associated	Pandemic-

inen & Bordi (2025)	ICT availability demands, and teacher well-being.	sectional moderated regression	Finnish comprehensive-school teachers	with burnout and lower work participation; school support and psychological detachment had protective effects.	related and education-specific context.
Lau et al. (2026)	Develop and validate an AI Fatigue Scale.	Scale development and psychometric validation	Adult AI users	Identified cognitive, emotional, behavioral, and physical aspects of AI fatigue.	Emerging construct requiring further validation.
Tresna et al. (2026)	Analyze relationships between digital stressors, psychosomatic tension, disempowerment, and digital disengagement.	Cross-sectional PLS-SEM	1,500 Indonesian digital users aged 18–35	Social comparison, privacy concerns, social overload, and information overload were linked to digital disengagement through psychosomatic tension and disempowerment.	Cross-sectional and single-country sample.
Muñoz López et al. (2026)	Study digital stress and its relationship with psychological distress among adolescents.	Cross-sectional quantitative study	Peruvian adolescents	Online vigilance, availability stress, approval anxiety, connection overload, and FOMO were identified; digital stress was associated with depression, anxiety, and perceived stress.	Adolescent and pandemic-related context.
Pires da Silva et al. (2024)	Examine digital burnout and its effects on digital consumer-platform use.	Cross-sectional online survey	202 participants	Digital burnout was correlated with internet addiction and positively related to platform use, partly through utilitarian motivation.	Voluntary online sample and cross-sectional design.
Kaltenegger et al. (2024)	Examine prospective relationships between technostress, burnout, hair cortisol, and inflammation.	Prospective cohort with three measurement points	Hospital employees	Technostress was negatively associated with hair cortisol but not significantly with burnout or CRP.	Healthcare-specific sample and prospective observational design.
Girardi et al. (2026)	Examine the longitudinal relationship between videoconference exhaustion and psychophysical strain.	Two-wave longitudinal study	155 workers	Videoconference fatigue predicted physical strain; psychological effects were evident among remote workers aged 55 or older.	Relatively small sample and work/videoconference-specific context.

Table 5 outlines the research objectives, methods, samples, key findings, and limitations of the 24 included literature. Overall, the studies show increasing interest in understanding and assessing digital-age psychosocial strain and related constructs, particularly through the development and validation of instruments for technostress, digital stress, digital burnout, and AI-related fatigue.

Cross-sectional quantitative and psychometric studies were the most common research designs. Many studies used EFA, CFA, reliability, and validity testing to develop or validate measurement instruments. Small portions of the literature used longitudinal, intervention-based, or other designs, indicating that evidence on the longer-term development and consequences of digital-age psychosocial strain remains restricted. The studies also consisted of diverse populations, including employees, students, educators, entrepreneurs, legal professionals, and general adults throughout several countries.

However, many studies were conducted within a single country or specific occupational group and relied heavily on the cross-sectional self-report data. These limitations may limit generalizability and cross-cultural applicability. Overall, the findings highlight the need for a more thorough and comprehensive instrument that can evaluate digital-age psychosocial strain across diverse populations.

Table 6: Common and Distinct Conceptual Dimensions Across Digital-Age Psychosocial Strain-Related Constructs and Responses

Construct	Technology Demands	Information / Communication Pressure	Work-Life / Social Strain	Emotional / Cognitive	Behavioral / Adaptive Response	Privacy / Security Concern
Technostress	✓	NA	✓	✓	NA	NA
Techno-stressors	✓	✓	✓	✓	NA	NA
Technostress	✓	✓	✓	✓	✓	✓
Digital stress intervention	NA	NA	NA	NA	NA	NA
Digital burnout	✓	✓	NA	✓	✓	NA
Flexible coping	NA	NA	NA	NA	✓	NA
Digital stress	✓	✓	NA	✓	NA	✓
Everyday technostress	✓	✓	✓	✓	NA	✓
Technostress	✓	NA	NA	✓	NA	NA
Technostress creators	✓	NA	✓	✓	NA	NA
Technostress creators	✓	NA	✓	✓	NA	NA
Digital stress	NA	✓	✓	✓	NA	NA
Technostress	✓	NA	✓	✓	NA	NA
Technostress creators	✓	NA	✓	✓	NA	NA
Short digital stress	NA	✓	✓	✓	NA	NA
Technostress creators	✓	NA	✓	✓	NA	NA
Digital burnout	✓	✓	NA	✓	✓	NA
Flexible coping	NA	NA	NA	NA	✓	NA
AI fatigue	✓	NA	NA	✓	✓	NA

The findings highlight substantial overlap across digital-age psychosocial strain-related constructs. Six recurring dimensions were identified: technology demands, information and communication pressure, work-

life and social pressure, emotional and cognitive strain, behavioral and adaptive responses, and privacy and security concerns.

Emotional and cognitive strain was the most repeatedly represented among the dimensions, including emotional exhaustion, mental tiredness, anxiety, frustration, and cognitive overload. Technology needs and information/communication tension were also found to be ordinary, whereas privacy and security worry appeared more selectively. Behavioral and adaptive responses were mainly demonstrated in digital burnout, AI fatigue, and coping-related constructs.

Despite this overlap, the constructs diverse in way it being emphasized. Technostress focused more on technology and work-related needs, while digital stress highlighted communication, social, and privacy burden. Digital burnout and AI fatigue placed bigger emphasis on emotional exhaustion, cognitive drained, and behavioral responses. Overall, the findings support viewing digital-age psychosocial strain as a multidimensional phenomenon encompassing digital demands, psychological strain, and behavioral responses.

DISCUSSION

Existing Research on Digital-Age Psychosocial Strain Remains Conceptually Fragmented

This review highlighted that research on digital-age psychosocial strain remains conceptually segmentized. The 24 studies used multiple constructs, including technostress, digital stress, digital burnout, AI fatigue, techno-stressors, and everyday technostress, to describe related psychological occurrence. Although these constructs vary in terminology and context, substantial overlap was found in the dimensions they address.

For example, technostress is usually centered on technology demands, while digital stress highlight information, communication, and connectivity pressures. Digital burnout and AI fatigue place bigger weight on emotional exhaustion, cognitive overload, and behavioral responses. These overlaps suggest that the constructs may symbolize different aspects of a wider psychosocial phenomenon rather than separate experiences.

Digital-Age Psychosocial Strain Represents a Multidimensional Construct

The results highlighted that digital-age psychosocial strain is better perceived as a multidimensional construct. Six recurring dimensions were discovered which are technology demands, information and communication pressure, work-life and social pressure, emotional and cognitive strain, behavioral and adaptive responses, and privacy and security concerns.

The emphasis diverse across populations and contexts. Occupational studies tended to focus on technology and work-related needs, while studies involving students and general populations also highlighted information overload, emotional strain, connectedness, and behavioral reaction. The consequences of digital technologies may also vary across contexts, suggesting that technology-related experiences are affected by how digital tools are being used and supported (Kamarulzaman, 2026). Despite this variation, the dimensions portrayed substantial conceptual overlap, supporting an integrated view of digital-age psychosocial strain.

Existing Measurement Instruments Demonstrate Strong Psychometric Properties but Limited Conceptual Coverage

The reviewed studies generally highlighted strong psychometric practices, with most of the literature used EFA, CFA, reliability, and validity testing. This demonstrates considerable progress in developing reliable measures of technology-related psychological experiences.

However, most instruments were created to measure specific constructs such as technostress, digital stress, digital burnout, or AI fatigue. They were also often validated within specific populations or contexts which may result with similar experiences yet using different instruments and construct labels hence limiting comparison across studies.

Thus, the main gap is not the lack of psychometrically sound instruments, but the lack of conceptual integration. A wider instrument may help capture the different dimensions of digital-age psychosocial strain within a single framework.

CONCLUSION

This systematic literature review analyzed contemporary research on digital-age psychosocial strain and its related constructs, including technostress, digital stress, digital burnout, AI fatigue, and everyday technostress. Although these constructs are often studied independently, the findings show considerable overlap in how they are defined and measured. Six recurring dimensions were identified: technology demands, information and communication pressure, work-life and social pressure, emotional and cognitive strain, behavioral and adaptive responses, and privacy and security concerns.

The major contribution of this literature review is the integration of these related constructs into a broader understanding of digital-age psychosocial strain. The findings may also help lead future measurements and assessments of technology-related strain across different populations and digital environments. At the same time contributing to the Sustainable Development Goal 3 (SDG 3: Good Health and Well-Being) by promoting the need to better understand technology-related psychosocial strain and its effect on individual well-being.

This review was limited to studies published between 2022 and 2026 and to Scopus, Web of Science, and ScienceDirect. Variety in constructs, populations, and measurement approaches also limit the ability to make direct comparison across studies. Future research should include wider databases, longer publication periods, and more diverse populations. Further studies should also focus on developing and validating a comprehensive multidimensional instrument for assessing digital-age psychosocial strain.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to National Defense University of Malaysia (UPNM) for providing the academic support and research environment throughout this study. Special appreciation is extended to Dr. Liley Afzani Saidi as the supervisor for valuable guidance, constructive feedback, and continuous support. The authors also would like to acknowledge UNITAR International University for providing endless support for this research and publication.

REFERENCES

1. Abouzahra, A., Sabraoui, A., & Afdel, K. (2020). Model composition in model-driven engineering: A systematic literature review. *Information and Software Technology*, 125, 106316.
2. <https://doi.org/10.1016/j.infsof.2020.106316>
3. Adha, M. A., Musyaffi, A. M., Ariyanti, N. S., Maulida, E., Sumardi, N. A., & Maisyaroh. (2026). Technostress measurement scale among Indonesian young entrepreneurs: A psychometric study. *Social Sciences & Humanities Open*, 13, 102373. <https://doi.org/10.1016/j.ssaho.2025.102373>
4. Arenas, A., Sanclemente, F. J., Terán-Tinedo, V., & Di Marco, D. (2023). Spanish validation of the Technostress Creators Scale. *Psicothema*, 35(1), 98–108.
5. <https://doi.org/10.7334/psicothema2022.198>
6. Burhan, B. B., & Mohamad, A. N. (2026). Forgetting in the digital age: A systematic review of digital amnesia among youth. *Asian Journal of Social Science Research*, 8(1), 70–85. <https://doi.org/10.5281/zenodo.20808098>
7. Cadieux, N., Camille, A. B., Cadieux, J., Gouin, M.-M., Morin, É., & Fournier, P.-L. (2024). Technostress or reaction to techno-stressors? Validation of bilingual techno-stressors index (TSI-II) and a second-order formative model of techno-distress among Canadian legal professionals. *Computers in Human Behavior Reports*, 16, 100485. <https://doi.org/10.1016/j.chbr.2024.100485>
8. Cao, S., Ali, S., Yawar, R. B., Saif, N., Goh, G. G. G., Khan, F., & Hussain, M. (2025). Constructing and validating a scale for technostress and employee behavior: Evidence from business schools in a developing country. *BMC Psychology*, 13, 812.
9. <https://doi.org/10.1186/s40359-025-03152-7>

10. Colledani, D., Barbaranelli, C., Robusto, E., & Anselmi, P. (2025). Measuring technostress in everyday life: Development and validation of an assessment scale. *Human Behavior and Emerging Technologies*, 2025, 5793644. <https://doi.org/10.1155/hbe2/5793644>
11. Cooke, A., Smith, D., & Booth, A. (2012). Beyond PICO: The SPIDER tool for qualitative evidence synthesis. *Qualitative Health Research*, 22(10), 1435–1443.
12. <https://doi.org/10.1177/1049732312452938>
13. Finstad, G. L., Giorgi, G., Curcuruto, M., Morgan, J., & Sommovigo, V. (2026). A multilevel approach to resilience against technostress: Development and preliminary validation of the Technology-Related Moderator Scale. *Human Behavior and Emerging Technologies*, 2026, 5736016. <https://doi.org/10.1155/hbe2/5736016>
14. Geris, A., Esen, E., & Soylu, Y. (2026). Adapting the Short Digital Stress Scale (SDSS) into Turkish: Validation and psychometric evaluation in adults. *Frontiers in Psychology*, 16, 1701641. <https://doi.org/10.3389/fpsyg.2025.1701641>
15. Girardi, D., Arcucci, E., Rapisarda, S., Dal Corso, L., Riedl, R., & Falco, A. (2026). The association between videoconference fatigue and psychophysical strain over time: Are age and remote work risk factors? *Acta Psychologica*, 262, 106020.
16. <https://doi.org/10.1016/j.actpsy.2025.106020>
17. Harrer, M., Baumeister, H., Cuijpers, P., Heber, E., Lehr, D., Kessler, R. C., & Ebert, D. D. (2024). Predicting effects of a digital stress intervention for patients with depressive symptoms: Development and validation of meta-analytic prognostic models using individual participant data. *Journal of Consulting and Clinical Psychology*, 92(4), 226–235.
18. <https://doi.org/10.1037/ccp0000852>
19. Kaltenegger, H. C., Marques, M. D., Becker, L., Rohleder, N., Nowak, D., Wright, B. J., & Weigl, M. (2024). Prospective associations of technostress at work, burnout symptoms, hair cortisol, and chronic low-grade inflammation. *Brain, Behavior, and Immunity*, 117, 320–329.
20. <https://doi.org/10.1016/j.bbi.2024.01.222>
21. Kamarulzaman, M. H. (2026). AI-driven adaptive feedback tool: Impacts on student learning outcomes and teachers' perceptions across educational contexts. *Asian Journal of Social Science Research*, 8(1), 86–99. <https://doi.org/10.5281/zenodo.20808671>
22. Lau, G. R., Kasturiratna, K. T. A. S., Goh, A. Y. H., Tong, E. M. W., & Hartanto, A. (2026). AI fatigue in human–AI interaction: Conceptual framework, scale development and validation, and associations with AI engagement. *Computers in Human Behavior Reports*, 23, 101186. <https://doi.org/10.1016/j.chbr.2026.101186>
23. Muñoz López, D. E., Foster, K. T., & Magis-Weinberg, L. (2026). Digital stress and well-being among Peruvian adolescents during the COVID-19 pandemic. *Computers in Human Behavior Reports*, 22, 100997. <https://doi.org/10.1016/j.chbr.2026.100997>
24. Nascimento, L., & Correia, M. F. (2025). Flexible coping with technostress in higher education teachers: Adaptation and validation of a scale. *Revista de Estudos e Investigación en Psicología y Educación*, 12(2), e11499. <https://doi.org/10.17979/reipe.2025.12.2.11499>
25. Nuutinen, S., & Bordi, L. (2025). Technology use and employee well-being among teachers during COVID-19: Moderating effects of school support and detachment from work. *International Journal of Educational Management*, 39(8), 57–76. <https://doi.org/10.1108/IJEM-04-2023-0211>
26. Ortega-Jiménez, D., López-Guerra, V. M., Ramírez, M. del R., & Angelucci, L. T. (2023). Psychometric properties and factor structure of the Spanish version of Technostress Scale (RED/TIC) in Ecuadorian teachers during the COVID-19 pandemic. *Psychology Research and Behavior Management*, 16, 4973–4987. <https://doi.org/10.2147/PRBM.S436047>
27. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
28. Pires da Silva, F., Jerónimo, H. M., Henriques, P. L., & Ribeiro, J. (2024). Impact of digital burnout on the use of digital consumer platforms. *Technological Forecasting and Social Change*, 200, 123172. <https://doi.org/10.1016/j.techfore.2023.123172>
29. Porcari, D. E., Ricciardi, E., & Orfei, M. D. (2023). A new scale to assess technostress levels in an Italian

- banking context: The Work-Related Technostress Questionnaire. *Frontiers in Psychology*, 14, 1253960. <https://doi.org/10.3389/fpsyg.2023.1253960>
30. Salazar-Concha, C., Ficapal-Cusí, P., Peñarroja, V., & Enache-Zegheru, M. (2022). Validation of the Spanish version of the Technostress Creators Scale in Chilean workers. *Anales de Psicología*, 38(3), 518–529. <https://doi.org/10.6018/analesps.509551>
31. Sevic, A., Foldnes, N., & Brønnick, K. K. (2024). Measuring digital stress in Norway: Translation and validation of the Digital Stressors Scale. *Frontiers in Psychology*, 15, 1297194. <https://doi.org/10.3389/fpsyg.2024.1297194>
32. Tresna, I. C., Hartini, S., & Rachmah, N. (2026). Beyond the scroll: Unmasking the simultaneous role of psychosomatic and stressors behind social media users' disempowerment and disengagement. *Computers in Human Behavior Reports*, 22, 101012. <https://doi.org/10.1016/j.chbr.2026.101012>
33. <https://doi.org/10.1016/j.chbr.2026.101012>
34. Urukovičová, N., Rošková, E., Schraggeová, M., & Smoroň, J. (2023). Psychometric properties of the Technostress Creators Inventory among employed Slovak respondents. *Computers in Human Behavior Reports*, 12, 100324. <https://doi.org/10.1016/j.chbr.2023.100324>
35. Verde-Avalos, E., Turpo-Chaparro, J. E., Palomino-Ccasa, J., Requena-Cabral, G., & Malca-Peralta, S. S. (2025). Validation of measurement scale for technostress in Peruvian university students. *Frontiers in Psychology*, 16, 1503442. <https://doi.org/10.3389/fpsyg.2025.1503442>
36. Zhang, C., Dai, B., & Lin, L. (2023). Validation of a Chinese version of the Digital Stress Scale and development of a short form based on item response theory among Chinese college students. *Psychology Research and Behavior Management*, 16, 2897–2911. <https://doi.org/10.2147/PRBM.S413162>
37. <https://doi.org/10.2147/PRBM.S413162>
38. Zhao, L., Zhao, J., Cao, E., Li, K., Pan, L., Zou, Y., & Sun, X. (2026). Development and validation of a digital burnout scale in artificial intelligence era. *Frontiers in Psychology*, 16, 1580422. <https://doi.org/10.3389/fpsyg.2025.1580422>