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AI Technostress in the Workplace: A Systematic Literature Review

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Carvalho, SA; Nascimento, L; Gonçalves, SP.

Corresponding author:
Sofia Carvalho

sofia.a.carvalho@edu.ulisboa.pt

Author Affiliation:
Universidade de Lisboa, Institute of Social and Political Sciences, Centre for Public Administration and Public Policies, Rua Almerindo Lessa, 1300-663, Lisbon, Portugal.

ADMINISTRATIVE INFORMATION

Support - Not applicable.

Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 September 2025 and was last updated on 22 September 2025.

INTRODUCTION

Review question / Objective AI has become an integral part of everyday working life, shaping both employee experiences and workplace dynamics. It is essential to understand how the use of AI contributes to technological stress and its potential consequences for employees.
To obtain deeper insights, it is crucial to conduct a systematic review of the literature on AI-related technostress within the context of the workplace.

The research questions are:
(1) How is AI technostress analysed in workplace in existing research in terms of development over time and the theories and methodologies used?
(2) What are the antecedents and consequences of AI technostress evidenced in scientific studies on employees?
(3) What organisational policies and coping mechanisms influence the relationship between the antecedents and consequences evidenced?
(4) What gaps in current research on AI technostress in the workplace can be identified to offer avenues for future research?

The objective is to systematically review and organise the literature on AI technostress in organisations, particularly its antecedents, consequences and organisational best practices, and coping mechanisms, to identify the most frequently researched topics; characterise theories and methodologies; and systematise the evolution of related research trends.

Rationale A systematic review of the literature explored the antecedents and consequences of AI-induced technostress, while identifying coping mechanisms and best organisational practices for dealing with it.

Condition being studied Not applicable.

METHODS

Search strategy The literature search was carried out in SCOPUS (Elsevier) (All fields), Web of

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Science (Clarivate) (All fields), IEEE Xplore (All), and the ACM Digital Library (Full-Text collection), applying the following search equation:

("artificial intelligence" or ai or "machine learning" or "generative ai" or "generative artificial intelligence" or automat* or "intelligent systems" or robotics or algorithms or "ai-powered tools" or "ai powered tools") and (technostress or “techno-stress” or “techno stress” or "technology-induced stress" or "technology induced stress" or "technology induced stress" or "digital stress" or "tech-related stress" or "tech related stress" or "technoeustress" or "techno-eustress" or "techno eustress" or "technodistress" or "techno-distress" or "techno distress" or "ict stress" or "technology stress" or technostrain or "technology overload" or "digital overload" or "technological fatigue" or "ai-induced stress" or "ai induced stress" or "cyber stress" or "digital fatigue") and (organiz* or organis* or workplace* or compan* or business* or employee* or worker* or staff or personnel or workforce or "office worker*" or "team member*")

Additionally, a search was conducted in the PsycINFO (EBSCO) database using the following search equation:

(("artificial intelligence" OR AI OR "machine learning" OR "generative AI" OR "generative artificial intelligence" OR automat* OR "intelligent systems" OR robotics OR algorithms OR "digital technologies" OR "AI-powered tools" OR "AI powered tools) AND (technostress OR “techno-stress” OR “techno stress” OR "technology-induced stress" OR "technology induced stress" OR "digital stress" OR "tech-related stress" OR "tech related stress" OR “technoeustress” OR “techno-eustress” OR “techno eustress” OR “technodistress” OR “techno-distress” OR “techno distress” OR "ICT stress" OR "technology stress" OR technostrain OR "technology overload" OR "digital overload" OR "technological fatigue" OR "AI-induced stress" OR "AI induced stress" OR "cyber stress" OR "digital fatigue") AND (organiz* OR organis* OR workplace* OR compan* OR business* OR employee* OR worker* OR staff OR personnel OR workforce OR "office worker*" OR "team member*") OR (("artificial intelligence" OR AI OR "machine learning" OR "generative AI" OR "generative artificial intelligence" OR automat* OR "intelligent systems" OR robotics OR algorithms OR "digital technologies" OR "AI-powered tools" OR "AI powered tools) AND (technostress OR “techno-stress” OR “techno stress” OR "technology-induced stress" OR "technology induced stress" OR "digital stress" OR "tech-related stress" OR "tech related stress" OR “technoeustress” OR “techno-eustress” OR “techno eustress” OR “technodistress” OR “techno-distress” OR “techno distress” OR "ICT stress" OR "technology stress" OR technostrain OR "technology overload" OR "digital overload" OR "technological fatigue" OR "AI-induced stress" OR "AI induced stress" OR "cyber stress" OR "digital fatigue") AND ("organizational policies" OR "organisational policies" OR "workplace policies" OR "HR policies" OR "organizational support" OR "organisational support" OR "employee support" OR "managerial support" OR "organizational climate" OR "organisational climate" OR "HR practices" OR "workplace support")) OR (("artificial intelligence" OR AI OR "machine learning" OR "generative AI" OR "generative artificial intelligence" OR automat* OR "intelligent systems" OR robotics OR algorithms OR "digital technologies" OR "AI-powered tools" OR "AI powered tools) AND (technostress OR “techno-stress” OR “techno stress” OR "technology-induced stress" OR "technology induced stress" OR "digital stress" OR "tech-related stress" OR "tech related stress" OR “technoeustress” OR “techno-eustress” OR “techno eustress” OR “technodistress” OR “techno-distress” OR “techno distress” OR "ICT stress" OR "technology stress" OR technostrain OR "technology overload" OR "digital overload" OR "technological fatigue" OR "AI-induced stress" OR "AI induced stress" OR "cyber stress" OR "digital fatigue") AND (antecedents OR drivers OR causes OR workload OR "digital transformation" OR "job demands" OR "techno-complexity" OR "techno complexity" OR "task complexity" OR "role ambiguity" OR "organizational change" OR "organisational change" OR "techno-invasion" OR "techno invasion" OR "work pressure")) OR (("artificial intelligence" OR AI OR "machine learning" OR "generative AI" OR "generative artificial intelligence" OR automat* OR "intelligent systems" OR robotics OR algorithms OR "digital technologies" OR "AI-powered tools" OR "AI powered tools) AND (technostress OR “techno-stress” OR “techno stress” OR "technology-induced stress" OR "technology induced stress" OR "digital stress" OR "tech-related stress" OR "tech related stress" OR “technoeustress” OR “techno-eustress” OR “techno eustress” OR “technodistress” OR “techno-distress” OR “techno distress” OR "ICT stress" OR "technology stress" OR technostrain OR "technology overload" OR "digital overload" OR "technological fatigue" OR "AI-induced stress" OR "AI induced stress" OR "cyber stress" OR "digital fatigue") AND (outcomes OR consequences OR effects OR "employee well-being" OR "employee well being" OR burnout OR performance OR stress OR anxiety OR "job

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satisfaction" OR turnover OR engagement OR "mental health" OR presenteeism OR absenteeism OR productivity OR commitment OR innovation))

Last searched on 18–19 September 2025 (allsources)
.

Participant or population Employees from different sectors who use AI technology at work.

Intervention Not applicable - exposure-based review (concept: AI-induced technostress at work).

Comparator Not applicable.

Study designs to be included (1) Peer-reviewed Scientific Articles; (2) Peer-reviewed Conference articles; (3) Original studies (quantitative, qualitative, or mixed methods); (4) Peer-reviewed Reviews (systematic reviews, meta-analyses, etc); (5) Research on AI technostress on organisations; (6) Studies published in English, with no time restrictions.

Eligibility criteria Three researchers defined the criteria of inclusion/exclusion.

Studies included:

(1) Peer-reviewed Scientific Articles;
(2) Peer-reviewed Conference articles;
(3) Original studies (quantitative, qualitative, or mixed methods);
(4) Peer-reviewed Reviews (systematic reviews, meta-analyses, etc);
(5) Research on AI technostress on organisations;
(6) Studies published in English, with no time restrictions.

Excluded studies:

(1) Books, letters, meeting abstracts, theses, media reports, content feeds;
(2) Articles that do not focus on AI technostress on organisations;
(3) Essays or opinions without empirical data or in-depth analysis;
(4) Not obtained or downloaded.

Information sources Databases: SCOPUS, Web of Science (WoS), Psycinfo (EBSCO), ACM Digital Library, IEEE Xplore

These databases were selected for their complementary coverage and robust relevance to the topic. SCOPUS and Web of Science ensure interdisciplinary and comprehensive coverage of organisational and social literature. The ACM Digital Library and IEEE Xplore are essential databases in technology, providing broad coverage and highly relevant, peer-reviewed publications in emerging technologies. PsycINFO is equally important as it offers comprehensive literature in psychology, supporting research on human–computer interaction, digital well-being, and the psychological impact of technology. Together, these databases ensure a strong interdisciplinary foundation.

Main outcome(s) The aim is to identify, synthesize, and analyse existing evidence on AI-related technostress in organisations, with a particular focus on its antecedents, outcomes, and HR policies.

Additional outcome(s) Not applicable.

Data management Titles and abstracts screening, the full article will be read to decide regarding the inclusion of the article. If there is a disagreement between the two reviewers, a third reviewer makes the final decision. This process should be iterative to ensure all relevant studies will be included. A pilot test will be implemented to ensure consistency among reviewers. Search results and the study selection process will be reported in the final review and presented in the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses).
The articles retrieved from the database search were imported and compiled into an Excel database.

Quality assessment / Risk of bias analysis 1- Removal of Duplicated
Literature After retrieving results from the selected databases, an initial step will be undertaken to exclude duplicate studies. 2- Screening Steps
The selection process will follow three sequential steps:
• (1) Abstract and Title Screening: Abstracts and titles of selected articles will be analysed to verify their relevance concerning the inclusion and exclusion criteria.
• (2) Full-Text Screening: Full texts of articles that pass the abstract screening will be assessed according to
the established eligibility criteria. Only studies meeting all the criteria will be included in the review.
• (3) Quality assessment: The methodological quality of the studies will be assessed using the quality assessment
grids:
Letts et al. (2007) - Qualitative studies

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Law et al. (2003) - Quantitative studies
Hong et al. (2018) - Mixed-methods studies
Aromataris et al. (2015); Baethge et al. (2019); Shea et al. (2017) - Reviews

3- Reviewer Agreement
The screening process will be conducted by two independent reviewers. Screening will begin only after achieving at least 75% agreement between the reviewers in a pilot test applied to a sample of articles to ensure consistency in applying the criteria.

4- Reporting Research Results
The results of the selection process will be presented in a PRISMA Flow Diagram. This flowchart will detail the screening stages, from the initial number of identified studies to the final articles included in the review, with justification provided for exclusions at each stage.

5- Data Registry and Export
All information regarding selected articles, rejected articles, and reasons for exclusion will be recorded in an Excel file. This registry will be used for analysis and as documentation for auditing the review process.

Strategy of data synthesis Tables and figures will present the extracted data for each extraction category, followed by a detailed qualitative descriptive analysis.

Subgroup analysis Not applicable. No meta-analysis is planned. Because studies will likely differ a lot and subgroups will be small, planned subgroup tests would have low power and may be misleading. We will describe differences narratively and, when helpful, show simple descriptive groupings marked as exploratory (no interaction tests).

Sensitivity analysis Exclusion of studies with low methodological quality and/or high risk of bias.

Language restriction English.

Country(ies) involved Portugal.

Other relevant information Not applicable.

Keywords AI Technostress; Artificial Intelligence; Workplace; Organisations.

Dissemination plans Publication in peer-reviewed journals or conferences.

Contributions of each author
Author 1 - Sofia Carvalho - Co-first author of the protocol who drafted the protocol and led and provided feedback for the screenings and development of the research question, research strategy, eligibility criteria, risk of bias assessment strategy, and data extraction and analysis, will draft the manuscript.
Email: sofia.a.carvalho@edu.ulisboa.pt
Author 2 - Lígia Nascimento - Co-first author of the protocol who led the refinement and modification of the search strategy, eligibility criteria and draft protocol, led and conducted pilot testing and formal screening of the search results against the eligibility criteria, will draft the manuscript.
Email: ligia.jardim.nascimento@gmail.com
Author 3 - Sónia P. Gonçalves - Co-first author of the protocol who drafted the protocol and provided feedback for screening and developing the research question, search strategy, eligibility criteria, data extraction and presentation plans, will draft the manuscript.
Email: spgoncalves@iscsp.ulisboa.pt

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