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Interventions to promote teachers' mental health in the workplace: a scoping review

Intervenções para promoção da saúde mental de professores no contexto do trabalho: revisão de escopo

Intervenciones para la promoción de la salud mental de los profesores en el contexto laboral: revisión de alcance

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ABSTRACT

Objective: To map the scientific evidence on interventions aimed at promoting teachers' mental health, including an analysis of their characteristics, measured outcomes, results and limitations.

Method: A scoping review was conducted across seven data sources and grey literature, in accordance with the Joanna Briggs Institute (JBI) methodology and the PRISMA-ScR guidelines. The search was performed in August 2024 and updated in August 2025. Primary intervention studies employing experimental or quasi-experimental designs were included, with no restrictions on language or year of publication. The final sample comprised 15 publications.

Results: The studies were published between 1990 and 2022, and were conducted in high-income countries. Most of the studies employed quasi-experimental designs (n = 9; 60.0%) and focused on worker-directed interventions (n = 13; 86.6%), particularly mindfulness-based approaches (n = 5; 38.4%). The most frequently assessed outcomes were related to mental ill health (n = 12), primarily stress, burnout, anxiety and depression. Indicators of mental health promotion were assessed less frequently and generally treated as secondary outcomes. The main limitations included the absence of control groups, small sample sizes, reliance on self-reported measures and lack of longitudinal follow-up.

Conclusion: The available evidence predominantly focused on worker-directed interventions with an emphasis on reducing symptoms. Positive mental health indicators were generally considered secondary outcomes, suggesting an approach oriented towards managing mental ill health rather than promoting mental health.

Descriptors: Mental Health; Health Promotion; Faculty; Occupational Health; School Teachers.

RESUMO

Objetivo: mapear evidências científicas acerca de intervenções voltadas à promoção da saúde mental de professores, incluindo características, desfechos mensurados, resultados e limitações.

Método: revisão de escopo, conduzida em sete fontes de dados e literatura cinzenta, conforme diretrizes do JBI e PRISMA-ScR. A busca ocorreu em agosto de 2024, com atualização em agosto de 2025. Incluíram-se estudos primários de intervenção, com delineamento experimental ou quase-experimental, sem restrição de idioma ou ano de publicação. A amostra foi de 15 publicações.

Resultados: as pesquisas foram publicadas entre 1990 e 2022 e realizadas em países de alta renda. A maioria adotou delineamentos quase-experimentais (n=9; 60,0%), com foco em intervenções direcionadas ao trabalhador (n=13; 86,6%), com destaque para aquelas baseadas em mindfulness (n=5; 38,4%). Os desfechos mais frequentemente avaliados relacionaram-se ao adoecimento mental (n=12), abrangendo principalmente estresse, burnout, ansiedade e depressão. Indicadores de promoção da saúde mental foram menos frequentes e avaliados como desfechos complementares. As principais limitações incluíram ausência de grupo controle, tamanhos amostrais reduzidos, uso de medidas autorrelatadas e ausência de acompanhamento longitudinal.

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Conclusão: as evidências concentraram-se em intervenções direcionadas ao trabalhador, com ênfase na redução de sintomas. Indicadores positivos tendem a ser secundários, sugerindo abordagem orientada ao manejo do adoecimento mental, em detrimento da promoção da saúde mental.
Descritores: Saúde mental; Promoção da saúde; Professores; Saúde ocupacional; Professores escolares.

RESUMEN

Objetivo: Mapear la evidencia científica sobre intervenciones orientadas a la promoción de la salud mental de los docentes, incluyendo sus características, los desenlaces evaluados, los resultados y las limitaciones.

Método: Se realizó una revisión de alcance en siete fuentes de datos y literatura gris, siguiendo las directrices del Joanna Briggs Institute (JBI) y la declaración PRISMA-ScR. La búsqueda se llevó a cabo en agosto de 2024 y se actualizó en agosto de 2025. Se incluyeron estudios primarios de intervención con diseño experimental o cuasiexperimental, sin restricciones de idioma ni año de publicación. La muestra final estuvo compuesta por 15 publicaciones.

Resultados: Los estudios fueron publicados entre 1990 y 2022 y se realizaron en países de altos ingresos. La mayoría empleó diseños cuasiexperimentales (n = 9; 60,0%) y se centró en intervenciones dirigidas al trabajador (n = 13; 86,6%), destacándose aquellas basadas en *mindfulness* (n = 5; 38,4%). Los desenlaces evaluados con mayor frecuencia estuvieron relacionados con los trastornos de salud mental (n = 12), principalmente estrés, *burnout*, ansiedad y depresión. Los indicadores de promoción de la salud mental fueron menos frecuentes y, por lo general, se evaluaron como desenlaces complementarios. Las principales limitaciones incluyeron la ausencia de grupos de control, tamaños muestrales reducidos, el uso de medidas autorreportadas y la falta de seguimiento longitudinal.

Conclusión: La evidencia disponible se concentró en intervenciones dirigidas al trabajador, con énfasis en la reducción de síntomas. Los indicadores positivos de salud mental tendieron a ocupar un papel secundario, lo que sugiere un enfoque orientado al manejo de los trastornos de salud mental más que a la promoción de la salud mental.
Descriptores: Salud Mental; Promoción de la Salud; Professores; Salud Laboral; Maestros.

INTRODUCTION

The relationship between work and the health-disease process is widely recognized and is influenced by work organization and working conditions[1]. Factors such as work overload, precarious labor relations, and the absence of institutional health protection policies contribute to increased mental distress among workers[1]. In the field of education, this situation is exacerbated by the complexity of teaching work, characterized by multiple pedagogical demands, technological changes, and the diversity of the school environment. Studies indicate that these characteristics increase the occupational demands placed on teachers and contribute to the onset of stress, emotional exhaustion, and other mental health-related conditions[2-7].

Teachers are among the occupational groups most vulnerable to mental illness[2–3], with high levels of stress and emotional exhaustion associated with increased workloads, limited time for rest and self-care, and exposure to violence in the school environment[4–5]. These processes are potentially influenced by psychosocial factors in the workplace, such as high demands, low control, and insufficient social support[6–7]. In this context, the Social Determinants of Health (SDH), including living and working conditions, access to resources, and social support, play a central role in understanding teachers' well-being[8-9].

These factors influence exposure to adverse working conditions and interact with individual characteristics, such as gender and membership in social minorities, which can intensify feelings of isolation and vulnerability to discrimination and violence in the school environment. A lack of social support and a history of mental health disorders are associated with a higher risk of burnout[3,9-10], which is becoming severely exacerbated by the current global shortage of teachers[11]. Estimates from the United Nations Educational, Scientific and Cultural Organization (UNESCO) indicate an urgent need for 44 million additional teachers worldwide to achieve universal basic education by 2030[5].

It is alarming to note that, of this projected total, 58% of the demand for new educators will be solely to replace professionals who leave the profession[5]. Teacher attrition is one of the main challenges facing educational systems and is influenced by factors such as work overload, occupational stress, low professional recognition, inadequate working conditions, and mental distress[12-13]. Evidence suggests that providing better working conditions, organizing work schedules that promote a balance between personal and professional life,

and fostering collaborative school leadership are associated with increased satisfaction, reduced absenteeism, and higher retention and longevity in the teaching profession[1,5].

Against this backdrop, concern for teachers' mental health has driven the development of various intervention programs focused on teachers' mental health. Recent systematic reviews and meta-analyses have synthesized evidence regarding the effectiveness of these initiatives, encompassing interventions targeting the worker, the work environment, and the management of existing mental health problems[14–19]. Despite the advances brought about by these reviews, there is considerable heterogeneity regarding the objectives, components, theoretical frameworks, implementation contexts, and outcomes assessed by the interventions[19].

The diversity of these interventions suggests the coexistence of different conceptions of mental health and of the most appropriate ways to promote it in the context of teaching, making it important to discuss the conceptual frameworks that guide their development and implementation. Among the concepts frequently invoked in this field, mental health promotion stands out, understood not only as the prevention of health problems but also as the strengthening of individual and collective resources and the creation of conditions conducive to health in both life and work contexts[20].

Thus, it differs from approaches focused exclusively on reducing symptoms or risk factors by incorporating strategies aimed at capacity building, enhancing well-being, and transforming conditions that influence mental health. The literature on workers' mental health recognizes that mental health interventions can serve different purposes, including preventing harm, promoting positive aspects of mental health, and addressing existing problems[19].

Although previous reviews have synthesized evidence on the effectiveness of interventions targeting teachers[14–19], our understanding of how these different perspectives have been operationalized in interventions developed for this population remains limited. Furthermore, it has not yet been clearly established which components characterize these interventions, which outcomes have been prioritized, how different conceptions of mental health have been translated into intervention strategies, and which gaps remain in the literature. Furthermore, the diversity of objectives, components, theoretical frameworks, methodological designs, and outcomes assessed makes it difficult to systematize the available knowledge and identify gaps relevant to research and practice[18–19, 21].

In this context, a scoping review is particularly relevant because it enables the systematization of a field characterized by high conceptual and methodological heterogeneity, contributing to an understanding of how mental health promotion has been operationalized in interventions aimed at teachers and to the identification of gaps that can guide future research, policies, and practices focused on mental health in the teaching profession. In light of the above, the objective was to map scientific evidence regarding interventions aimed at promoting teachers' mental health, including characteristics, measured outcomes, results, and limitations. This proposal aligns with the Sustainable Development Goals of the 2030 Agenda[21], particularly SDGs 3, 4, and 8, by recognizing educators' mental health as an essential component of educational quality.

METHOD

Study Design

This is a systematic review[22], conducted in accordance with the recommendations of the JBI[23] and the PRISMA-ScR checklist[24]. The steps involved in conducting the research were: (1) formulating the research question, (2) conducting a literature search, (3) removing duplicates, (4) selecting studies, (5) extracting and summarizing data, and (6) preparing the results report. The research protocol was registered on the Open Science Framework: https://doi.org/10.17605/OSF.IO/8JRS2.

Identification of the research question

The research question was formulated using the PCC mnemonic, in which "P" referred to the participants (teachers), "C" to the main concept under analysis (interventions to promote mental health), and

"C" to the study context (teachers' work). Based on this structure, the following guiding questions were defined: What types of interventions have been developed to promote teachers' mental health in the workplace, and what are their main characteristics? What outcomes have been assessed in interventions to promote teachers' mental health in the workplace? What results have been achieved? What are the main limitations and gaps identified in the process of implementing these interventions?

Eligibility Criteria

The eligibility criteria were defined based on the elements of the research questions, as described below:

Participants: studies that included practicing teachers in their work settings (e.g., schools and universities). Teachers at all levels of education (early childhood education, elementary school, high school, and higher education) were considered eligible, which made it possible to account for different work contexts and the heterogeneity of teachers' working conditions. Studies in which the teacher did not serve as the primary participant in the intervention, but rather acted solely as a mediator in activities aimed at students, were excluded.

Concept: studies on interventions for mental health promotion. In this study, the following definition was used for mental health promotion interventions: a set of strategies and actions aimed at creating work environments that protect and promote workers' psychological well-being. Interventions should strengthen the capacity of individuals and communities to improve and maintain mental well-being. This involves creating environments and living conditions that support mental health and enable the adoption and maintenance of healthy lifestyles[25].

Context: studies conducted in teachers' work environments, such as schools and universities. Primary intervention studies with experimental or quasi-experimental designs were included. Pilot studies and research with preliminary results were excluded due to methodological limitations. The search for evidence had no restrictions regarding publication date or language. Studies from potentially predatory journals were included in the synthesis but interpreted with caution, given evidence that such publications may have integrity issues and a higher risk of overestimating effects.

Search Strategy

The search strategy was conducted in three stages: (1) an exploratory search of the PubMed and PsycINFO databases, using MeSH terms in PubMed, such as "mental health," "health promotion," and "occupational health", and thesaurus terms in PsycINFO, as well as free-text terms such as "teachers." The titles, abstracts, and keywords of the retrieved studies were analyzed to identify additional descriptors and refine the strategy; (2) application of the refined strategy to the PubMed, PsycINFO, Embase, Web of Science, ERIC, Scopus, and CINAHL databases, as well as to the gray literature via the ProQuest Dissertations and Theses Global database; and (3) a manual search of the reference lists of the included studies.

The development and refinement of the search strategy were carried out with the support of a librarian. The Boolean operators AND and OR were used to combine the elements of the PCC strategy. Database searches were conducted from March to August 2024, with an update performed in March 2025. Details of the search strategy are presented in Chart 1.

Chart 1 – Description of the search strategy for the respective databases. Recife, Pernambuco, Brazil, 2025

Databases	Search Strategy	N*
Medline/ PubMed	("Health Promotion"[MeSH Terms] OR "Health Promotion"[All Fields] OR "Health Promotions"[All Fields] OR "Promotion of Health"[All Fields] OR "Wellness Programs"[All Fields] OR "Wellness Program"[All Fields] OR "Health Campaigns"[All Fields] OR "Health Campaign"[All Fields]) AND ("Mental Health"[MeSH Terms] OR "Mental Health"[Title/ Abstract] OR "Mental Hygiene"[All Fields] OR ("Occupational Health"[MeSH Terms] OR "Occupational Health"[All Fields] OR "Industrial Hygiene"[All Fields] OR "Industrial Health"[All Fields] OR "Occupational Safety"[All Fields] OR "Employee Health"[All Fields])) AND ("Educational Personnel"[MeSH Terms] OR "Educational Personnel"[All Fields] OR "teacher"[Title/Abstract] OR "teachers"[Title/Abstract])	288
Scopus	TITLE-ABS-KEY("Health Promotion" OR "Health Promotions" OR "Promotion of Health" OR "Wellness Programs" OR "Wellness Program" OR "Health Campaigns" OR "Health Campaign") AND TITLE-ABS-KEY("Mental Health" OR "Mental Hygiene" OR "Occupational Health" OR "Industrial Hygiene" OR "Industrial Health" OR "Occupational Safety" OR "Employee Health") AND TITLE-ABS-KEY("educational personnel" OR teacher OR teachers)	439
Web of Science	TS=("Health Promotion" OR "Health Promotions" OR "Promotion of Health" OR "Wellness Programs" OR "Wellness Program" OR "Health Campaigns" OR "Health Campaign") AND TS=("Mental Health" OR "Mental Hygiene" OR "Occupational Health" OR "Industrial Hygiene" OR "Industrial Health" OR "Occupational Safety" OR "Employee Health") AND TS=("educational personnel" OR teacher OR teachers)	214
PsycINFO	((Keywords: ("Health Promotion") OR Keywords: ("Health Promotions") OR Keywords: ("Promotion of Health") OR Keywords: ("Wellness Programs") OR Keywords: ("Wellness Program") OR Keywords: ("Health Campaigns") OR Keywords: ("Health Campaign")) AND (Keywords: ("Mental Health") OR Keywords: ("Mental Hygiene") OR Keywords: ("Occupational Health") OR Keywords: ("Industrial Hygiene") OR Keywords: ("Industrial Health") OR Keywords: ("Occupational Safety") OR Keywords: ("Employee Health")) AND (Keywords: ("educational personnel") OR Keywords: (teacher) OR Keywords: (teachers))) OR ((abstract: ("Health Promotion") OR abstract: ("Health Promotions") OR abstract: ("Promotion of Health") OR abstract: ("Wellness Programs") OR abstract: ("Wellness Program") OR abstract: ("Health Campaigns") OR abstract: ("Health Campaign")) AND (abstract: ("Mental Health") OR abstract: ("Mental Hygiene") OR abstract: ("Occupational Health") OR abstract: ("Industrial Hygiene") OR abstract: ("Industrial Health") OR abstract: ("Occupational Safety") OR abstract: ("Employee Health")) AND (abstract: ("educational personnel") OR abstract: (teacher) OR abstract: (teachers))) OR ((title: ("Health Promotion") OR title: ("Health Promotions") OR title: ("Promotion of Health") OR title: ("Wellness Programs") OR title: ("Wellness Program") OR title: ("Health Campaigns") OR title: ("Health Campaign")) AND (title: ("Mental Health") OR title: ("Mental Hygiene") OR title: ("Occupational Health") OR title: ("Industrial Hygiene") OR title: ("Industrial Health") OR title: ("Occupational Safety") OR title: ("Employee Health")) AND (title: ("educational personnel") OR title: (teacher) OR title: (teachers)))	169

Chart 1 – Cont.

Databases	Search Strategy	N*
CINAHL	(TI ("Health Promotion" OR "Health Promotions" OR "Promotion of Health" OR "Wellness Programs" OR "Wellness Program" OR "Health Campaigns" OR "Health Campaign") AND TI ("Mental Health" OR "Mental Hygiene" OR "Occupational Health" OR "Industrial Hygiene" OR "Industrial Health" OR "Occupational Safety" OR "Employee Health") AND TI ("educational personnel" OR teacher OR teachers)) OR (AB ("Health Promotion" OR "Health Promotions" OR "Promotion of Health" OR "Wellness Programs" OR "Wellness Program" OR "Health Campaigns" OR "Health Campaign") AND AB ("Mental Health" OR "Mental Hygiene" OR "Occupational Health" OR "Industrial Hygiene" OR "Industrial Health" OR "Occupational Safety" OR "Employee Health") AND AB ("educational personnel" OR teacher OR teachers)) OR (SU ("Health Promotion" OR "Health Promotions" OR "Promotion of Health" OR "Wellness Programs" OR "Wellness Program" OR "Health Campaigns" OR "Health Campaign") AND SU ("Mental Health" OR "Mental Hygiene" OR "Occupational Health" OR "Industrial Hygiene" OR "Industrial Health" OR "Occupational Safety" OR "Employee Health") AND SU ("educational personnel" OR teacher OR teachers))	97
ERIC	("Health Promotion" OR "Health Promotions" OR "Promotion of Health" OR "Wellness Programs" OR "Wellness Program" OR "Health Campaigns" OR "Health Campaign") AND ("Mental Health" OR "Mental Hygiene" OR "Occupational Health" OR "Industrial Hygiene" OR "Industrial Health" OR "Occupational Safety" OR "Employee Health") AND ("educational personnel" OR teacher OR teachers)	263
Dissertation and Theses Global (ProQuest)	noft("Health Promotion" OR "Health Promotions" OR "Promotion of Health" OR "Wellness Programs" OR "Wellness Program" OR "Health Campaigns" OR "Health Campaign") AND noft("Mental Health" OR "Mental Hygiene" OR "Occupational Health" OR "Industrial Hygiene" OR "Industrial Health" OR "Occupational Safety" OR "Employee Health") AND noft("educational personnel" OR teacher OR teachers)	50

*Search updated in 2025.
Source: prepared by the authors.

Selection of studies

After searching the selected databases, the results were exported to the Zotero® reference management software[26], where they were organized, and duplicate articles were removed. To select the studies, the data were transferred to the Rayyan® software[27], in which labels were created describing the reasons for inclusion or exclusion. This step was conducted in two phases. In Phase 1, two independent reviewers analyzed only the titles and abstracts, selecting studies that met the inclusion criteria. In Phase 2, the same criteria were applied to the full-text versions, and the same reviewers conducted the analysis independently. The reference lists of all included articles were also examined.

Initially, 1,520 publications were identified. After excluding 533 duplicate studies, 987 were screened based on their titles and abstracts, resulting in the exclusion of 934 records for failing to address the research question. This left 53 studies for full-text evaluation. Of these, 46 were excluded, leaving a total of seven included studies. Subsequently, eight additional articles were added based on an analysis of the reference lists of the previously selected studies, resulting in a final sample of 15 studies. The study selection and inclusion process is illustrated in the PRISMA-ScR flowchart (Figure 1).

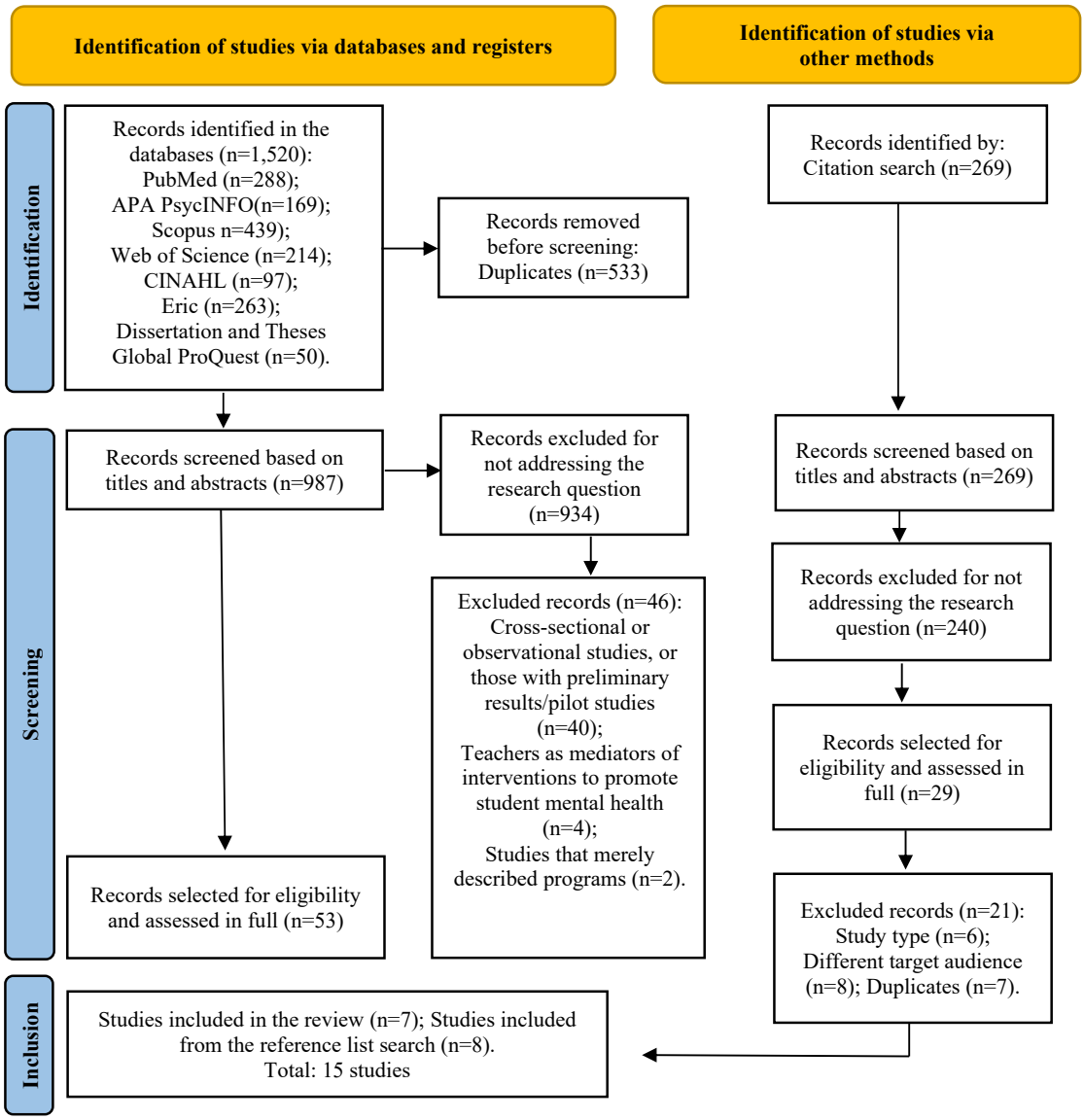


Figure 1 - Flowchart for the selection and inclusion of studies. Recife, Pernambuco, Brazil, 2025.
Source: adapted from PRISMA-ScR[23].

Data Extraction

Prior to the data extraction stage, a calibration phase was conducted among the reviewers, in accordance with JBI recommendations[22]. In this stage, two reviewers independently applied the preliminary data extraction form to five randomly selected studies to verify the clarity of the categories, assess consistency in the application of the criteria, and identify any ambiguities or areas requiring refinement. Following this initial application, a consensus meeting was held to discuss discrepancies and adjust the operational definitions of the instrument. No significant disagreements were observed, indicating adequate understanding and interpretive consistency among the reviewers.

Once calibration was complete, data extraction proceeded using a standardized form based on the extraction tool recommended by the JBI[22]. The form included: (1) characteristics of the evidence source (author(s), year of publication, country, context, and participants); (2) methodological and descriptive

information (study objective, design, description of the intervention, instruments used); and (3) results (observed effects of the interventions and reported limitations). This procedure ensured standardization, rigor, and systematization in the collection of information used to synthesize the findings.

Analysis and synthesis of the results

The results were presented using tables, an evidence map, and a narrative summary, taking into account the methodological characteristics, the components of the interventions, and the main outcomes reported by the included studies. No assessment of the methodological quality of the studies was conducted, as this step is not a mandatory requirement in scoping reviews[22].

For the purposes of synthesis, the methodological framework adopted was the classification of interventions into three categories, based on their primary target[28–30]: (1) work-directed interventions, aimed at modifying work conditions, the organization, or the work environment, including, for example, changes in workload and work organization, improvement of the organizational climate, strengthening of social support, leadership development, participatory interventions, and actions aimed at improving working conditions; (2) worker-directed interventions, focused on developing individual knowledge, skills, and resources to cope with occupational demands, such as mindfulness programs, stress management training, psychoeducation, the development of social-emotional skills, the promotion of resilience, physical activity, and other strategies for strengthening personal resources; and (3) illness-directed interventions, designed to manage, treat, or reduce established symptoms and mental health problems, including, for example, psychotherapy, interventions for depression, anxiety, or burnout, and strategies to support a return to work following a mental health-related leave of absence[28-29].

To construct the evidence map, outcomes were identified based on the variables assessed in the primary studies, taking into account the instruments used, the indicators described in the methods, and the results reported by the authors. Subsequently, the extracted outcomes underwent a process of semantic and conceptual clustering, based on an analysis of their definitions, measurement objectives, and theoretical proximity. Based on this procedure, analytical categories were established that represented the main outcomes investigated by the interventions, including stress, anxiety, burnout, mindfulness, well-being, sleep, and positive affect, which informed the development of the evidence map and the synthesis of the results.

To construct the evidence map, the outcomes were identified based on the variables assessed in the primary studies, taking into account the instruments used, the indicators described in the methods, and the results reported by the authors. Subsequently, the extracted outcomes underwent a process of semantic and conceptual grouping based on an analysis of their definitions, measurement objectives, and theoretical proximity.

The categorization was performed independently by three reviewers with expertise in mental health, positive mental health, and evidence review, taking into account the nature of the constructs being evaluated, their conceptual frameworks, and the purpose for which they were measured in the primary studies. Any disagreements were discussed until consensus was reached among the researchers. Based on this procedure, analytical categories were established that represented the main outcomes investigated by the interventions, including, for example, stress, anxiety, burnout, mindfulness, well-being, sleep, and positive affect, which informed the development of the evidence map and the synthesis of the results.

RESULTS

This review included 15 studies published between 1990 and 2022[31–45]. Most were conducted in North America, specifically in the United States (n = 7)[31–32,37–39,41,45], followed by studies conducted in Europe (n=6)[33–36,40,43], particularly in Poland[33], Germany[34], England[35], Spain[36], the Netherlands[39], and Italy[43]. Two studies were conducted in Asia, specifically in Israel[42,44]. No studies were identified that were conducted in low- and middle-income countries,

highlighting a significant gap in the literature and in the global representativeness of interventions aimed at teachers' mental health.

Regarding study design, four were classified as randomized clinical trials[33,37,39,45], one as a non-randomized controlled trial[45], and nine as quasi-experimental studies, with[31–33,35,38, 40–42] or without a comparison group[43]. Most of the studies were conducted with high school teachers (n = 9; 60.0%)[32,34,36–37,39–40,42–43,45] and elementary school teachers (n = 8; 53.3%)[31–32,35,38–39,41,43,45]. No studies involving higher education teachers were found. Sample sizes ranged from 10[35] to 356 participants[40], with sample sizes ranging from 10[35] to 204[40] in the Intervention Groups (IG), 20[41] to 152[40] in the Comparison Groups (CG), and 19[37] to 166[34] in the Control Groups (CGT).

Regarding the classification of interventions, a predominance of worker-focused approaches was observed (n=13). This category included meditation programs[32,36–37], mindfulness-based interventions[35,38–39,43,45], stress reduction and management programs[33,42,44], physical activity-based interventions[41], and a psychoeducational intervention focused on understanding the biology of stress and developing interpersonal skills[34].

Work-oriented interventions were less common (n=2), corresponding to the Health Enhancement Program (HEP)[31] and the participatory organizational intervention based on the heuristic method[40]. Both sought to promote changes in organizational and psychosocial aspects of the school context, including organizational climate, social support, empowerment, work demands, employee participation, and working conditions. No interventions targeting mental illness were identified, defined as those specifically aimed at the treatment, clinical management, or rehabilitation of previously diagnosed mental disorders. Further details are provided in Chart 2.

Chart 2 – Characteristics of the included studies regarding year of publication, country, sample, study type, and intervention characteristics (n=15). Recife, Pernambuco, Brazil, 2025

Authors, Years, Countries	Sample	Teachers' Category	Types of Studies	Interventions	Duration of the interventions
Allegrante; Michela[31] (1990) USA	Total: 206 IG*: 140 CG**: 66	Elementary school	Quasi-experimental with a comparison group	Health Enhancement Program (HEP)/	NI****
Anderson et al., (1999)[32] USA	Total: 91 IG*: 45 CG**: 46	Elementary or high school	Quasi-experimental with a comparison group	Standardized meditation course	5 weeks
Zołnierczyk-Zreda (2005)[33] Poland	Total: 58 IG*: 29 CG**: 29	NA****	Quasi-experimental with a comparison group	Intensive stress management workshop	2 days (6 hours/ day)
Unterbrink et al., (2010)[34] Germany	Total: 337 IG*: 171 CGT***: 166	High school	Randomized clinical trial	Program on the biology of stress, reflection, and managing interpersonal relationships	10 months
Gold et al., (2010)[35] England	Total: 10 IG*: 10	Elementary school	NA****	Mindfulness-Based Stress Reduction (MBSR) course	8 weeks
Franco et al., (2010)[36] Spain	Total: 68 IG*: 34 CG**: 34	High school	Quasi-experimental with a comparison group	Flow Meditation	10 weeks
Elder et al., (2014)[37] USA	Total: 36 GI*: 17 CGT***: 19	High school	Randomized clinical trial	Transcendental Meditation	4 months
Harris et al., (2016)[38] USA	Total: 64 IG*: 34 CG**: 30	Elementary school	Quasi-experimental with a comparison group	Community Approach to Learning Mindfully (CALM) program	16 weeks

Chart 2 – Cont.

Authors, Years, Countries	Sample	Teachers' Category	Types of Studies	Interventions	Duration of the interventions
Crain et al., (2016)[39] USA and Canada	Total: 113 IG*: 60 (18 americans; 42 canadians) CGT***: 53 (17 americans; 36 canadians)	Elementary and high school	Randomized clinical trial	Mindfulness-Based Stress Reduction (MBSR) Program	8 weeks
Schelvis et al., (2017)[40] Netherlands	Total: 356 IG*: 204 CG**: 152	High school	Quasi-experimental with a comparison group	Participatory organizational intervention (heuristic method)	24 months
Kim; Gurvitch (2020)[41] USA	Total: 32 IG*: 12 CG**: 20	Elementary school	Quasi-experimental with a comparison group	Sports-based physical activity (Catchball)	7 weeks
Schnaider-Levi et al., (2020)[42] Israel	Total: 53 IG*: 25 CG**: 28	High school	Quasi-experimental with a comparison group	Inquiry-Based Stress Reduction (IBSR)	12 weeks
Matiz et al., (2020)[43] Italy	Total: 58 IG*: 58	Early childhood, elementary, and high school	Quasi-experimental without a comparison group	Mindfulness-Oriented Meditation (MOM)	8 weeks
Zadok-Gurman et al., (2021)[44] Israel	Total: 67 IG*: 35 CGT***: 32	NA****	Non-randomized controlled clinical trial	Inquiry-Based Stress Reduction (IBSR)	20 weeks
Hirshberg et al., (2022)[45] USA	Total: 233 IG*: 114 CGT***: 119	Preschool through high school	Randomized clinical trial	Healthy Minds Program (HMP) app	4 weeks

*IG: Intervention Group; **CG: Comparison Group; ***CGT: Control Group; ****NA: Not Available.

Source: data from the studies.

With regard to the measured outcomes, interventions targeting teachers yielded predominantly favorable results. Mindfulness-based programs[35,38–39,43,45] led to reductions in stress, anxiety, depression, and burnout, as well as increases in mindfulness, well-being, teaching self-efficacy, and sleep quality. Additionally, physiological effects were observed, including reduced blood pressure and improved cortisol reactivity[38]. However, the results were less consistent for dimensions of burnout, such as personal fulfillment and depersonalization[35,38]. Non-mindfulness-based meditative interventions[32,37] also demonstrated reductions in stress, depression, and burnout, particularly in the dimension of emotional exhaustion.

Research-based cognitive interventions (Inquiry-Based Stress Reduction—IBSR)[42,44] yielded mixed results, with improvements in psychological well-being, life satisfaction, resilience, and mindfulness, as well as a reduction in emotional exhaustion in some studies. However, no consistent changes were observed in perceived stress, anxiety, or depression. Similarly, psychoeducational interventions[33–34] were associated with reductions in emotional exhaustion, somatic symptoms, and perceived overload, as well as improvements in behavioral control and overall mental health, with effects dependent on adherence to the activities in certain studies[34]. The physical activity-based intervention[41] showed more limited effects, restricted to an increase in the perception of interpersonal relationships, with no significant changes in perceived stress or general motivation.

Workplace-targeted interventions[31,40] yielded more limited and inconsistent results when compared to worker-targeted interventions. Isolated improvements were observed in organizational climate, social support, empowerment, and occupational self-efficacy; however, there was no significant impact on outcomes such as absenteeism, vitality, or need for recovery[31,40].

The main limitations reported included the absence of a control group[35,43], non-randomized study designs[31,40–41,44], small sample sizes[35,41], predominant use of self-reported measures[34–38,41–45], lack of longitudinal follow-up[34–35,42,44], participant attrition[34,45], and small-magnitude effects[31]. Additional details are presented in Chart 3.

Chart 3 – Results achieved through the interventions and limitations described in the studies (n=15). Recife, Pernambuco, Brazil, 2025

Authors, Years, Countries	Interventions	Key Findings	Limitations
Allegrante; Michela[31] (1990) USA	Health Enhancement Program (HEP)	Improvement in organizational climate and perceptions of school quality; no effect on absenteeism or job satisfaction.	Lack of pre-test data in the control group; absence of randomization; small-magnitude effects.
Anderson et al., (1999)[32] USA	Standardized meditation course	Significant reduction in perceived stress, state and trait anxiety, and emotional exhaustion.	Absence of a placebo group; self-selected sample; absence of physiological measures.
Zołnierczyk-Zreda (2005)[33] Poland	Intensive stress management workshop	Reduction in emotional exhaustion, somatic symptoms, and perceptions of overload; increased behavioral control.	No longitudinal follow-up; absence of objective measures.
Unterbrink et al., (2010)[34] Germany	Program on the biology of stress, reflection,	Reduction in depressive, dysthymic, and distrust symptoms; improvement in overall mental health.	High dropout rate; effects limited to participants with ≥5 sessions; effects disappear in conservative analyses.

Chart 3 – Cont.

Authors, Years, Countries	Interventions	Key Findings	Limitations
Gold et al., (2010)[35] England	and managing interpersonal relationships	Mitigation of stress and depression; increased mindfulness skills.	Small sample size; no control group; no longitudinal follow-up.
Franco et al., (2010)[36] Spain	Mindfulness-Based Stress Reduction (MBSR) Course	Significant decrease in psychological symptom scores (Global Severity Index—GSI scores); effects maintained at follow-up.	No non-intervention group; did not assess additional variables such as years in the profession.
Elder et al., (2014)[37] USA	Flow Meditation	Reduction in stress, depression, and burnout; significant effect on emotional exhaustion.	Waiting-list control group; self-reported measures; no physiological measures.
Harris et al., (2016)[38] USA	Community Approach to Learning Mindfully (CALM) Program	Improvement in mindfulness, positive affect, stress tolerance, and teaching self-efficacy; decrease in blood pressure and physical symptoms.	Waiting-list control group; homogeneous sample; predominance of subjective measures.
Crain et al., (2016)[39] USA and Canada	MBSR-based mindfulness program	Improved mindfulness and sleep; reduced rumination and negative mood at work and at home.	Lack of objective measures; effects not sustained across all segments.
Schelvis et al., (2017)[40] Netherlands	Participatory organizational intervention (heuristic method)	No changes in vitality or need for recovery; transient improvement in support and occupational self-efficacy for participants.	Weak implementation of Phase 2; no randomization; loss to follow-up.
Kim; Gurvitch (2020)[41] USA	Sports-based physical activity (Catchball)	Increase in perceived interpersonal relationships; no effect on perceived stress.	Small sample size; limited sensitivity of the stress instrument.
Schnaider-Levi et al., (2020)[42] Israel	Inquiry-Based Stress Reduction (IBSR)	Reduction in emotional exhaustion; increase in personal fulfillment.	Non-randomized design; no longitudinal follow-up; low representation of novice teachers.
Matiz et al., (2020)[43] Italy	Mindfulness-Oriented Meditation (MOM)	Reduction in anxiety, depression, and emotional exhaustion; improvement in mindfulness and psychological well-being.	No control group; self-report instruments only; restricted context.

Chart 3 – Cont.

Authors, Years, Countries	Interventions	Key Findings	Limitations
Zadok-Gurman et al., (2021)[44] Israel	Inquiry-Based Stress Reduction (IBSR)	Improvement in well-being, life satisfaction, positive affect, resilience, and mindfulness in teaching.	Non-randomized design; self-reported outcomes; no longitudinal follow-up.
Hirshberg et al., (2022)[45] USA	Healthy Minds Program (HMP) app	Alleviation of psychological distress; improvement in mindfulness, self-compassion, loneliness, well-being, and life purpose.	Self-selected sample; exclusive use of self-reports; high rate of partial dropout.

Source: data from the studies.

The included studies assessed a wide variety of outcomes, organized into six categories: C1. mental distress (stress, anxiety, depression, burnout, emotional exhaustion, psychological distress, rumination, and negative mood); C2. well-being and positive resources (well-being, positive affect, mindfulness levels, resilience, self-compassion, life purpose, personal fulfillment, and vitality); C3. psychosocial aspects of work (teaching self-efficacy, occupational self-efficacy, interpersonal relationships, occupational support, organizational climate, and perception of school quality); C4. occupational outcomes (absenteeism, job satisfaction, engagement, perceived overload, and need for recovery); C5. physical health (sleep, blood pressure, and physical symptoms); and C6. other outcomes (motivation for physical exercise, interoceptive awareness, and personality/temperament traits).

Among these categories, outcomes related to mental health were the most frequent (n=12), followed by well-being and positive resources (n=9) and psychosocial aspects of work (n=5). Occupational outcomes and physical health were identified in three studies each (n=3), while other outcomes appeared in two studies (n=2). To synthesize these findings, an evidence map was developed linking the outcome categories to the focus of the interventions (Figure 2).

Focus of the intervention	Outcome Categories					
	C1	C2	C3	C4	C5	C6
Aimed at workers	●●●●●●●●●●●●	●●●●●●●●	●●●	●	●●●	●●
Aimed at workplace	○	●	●●	●●	○	○

Figure 2 – Evidence map, by intervention focus and outcome categories described in the included studies (n=15).
Legend: A filled symbol (●) represents a study that evaluated the respective outcome category. An empty symbol (○) indicates the absence of studies. Outcome categories: C1. Mental illness; C2. Well-being and positive resources; C3. Psychosocial aspects of work; C4. Occupational outcomes; C5. Physical health; and C6. Other outcomes.

As shown in Figure 2, interventions targeting workers focused primarily on mental health outcomes (n=12) and well-being and positive resources (n=8). In contrast, workplace-focused interventions predominantly addressed psychosocial aspects of work (n=2) and occupational outcomes (n=2), with only one study evaluating well-being and positive resources (n=1). It should be noted that outcomes in the categories

of well-being and positive resources—factors that promote mental health—although present, are often assessed as complementary to measures of mental health problems.

DISCUSSION

The results revealed gaps in the scientific literature on interventions aimed at teachers' mental health, as evidenced by the concentration of studies in high-income countries, the greater frequency of individual interventions, and the absence of research involving higher education faculty. Furthermore, there was a predominance of outcomes focused on reducing symptoms of mental distress, such as stress, anxiety, depression, and burnout, at the expense of indicators related to mental health promotion. Furthermore, the included studies presented significant methodological limitations, such as the absence of a control group, non-randomized designs, small sample sizes, the predominant use of self-reported measures, a lack of longitudinal follow-up, and heterogeneity in the duration of interventions, all of which limit the robustness of the evidence and the interpretation of the interventions' effects.

Regarding the geographic distribution of the studies, an imbalance was observed in the generation of evidence, and educational contexts marked by structural inequalities were largely overlooked, particularly in low- and middle-income countries, where teachers' distress tends to be more intensely generated and sustained. In these contexts, DSS exacerbate this situation[8], given conditions such as school violence, insufficient psychosocial support, overcrowded classrooms, and weak mental health promotion policies[46]. The scarcity of research in these countries limits the generalizability of findings and the suitability of interventions developed in high-income settings, which do not always reflect the sociocultural and organizational specificities of more vulnerable educational systems[47].

The predominance of quasi-experimental studies, rather than randomized clinical trials, indicates a field still in the process of consolidation, fraught with ethical and logistical challenges in conducting controlled interventions in school settings. Although these study designs are relevant for initial investigations and naturalistic contexts, the lack of studies with rigorous controls compromises the strength of the evidence regarding the effectiveness of the proposed strategies[48]. The absence of randomization increases susceptibility to selection bias and interference from uncontrolled external factors, which reduces the robustness of causal inferences[49].

Thus, although quasi-experimental studies contribute to the advancement of the field and offer preliminary evidence of effectiveness[48], it is necessary to increase the number of randomized clinical trials, with more robust designs and methodological rigor, in order to strengthen the empirical basis that supports evidence-based policies and practices. These methodological limitations reflect the difficulties of operationalizing randomization and controlling for variables in complex school settings without compromising the ethics and feasibility of the research.

The lack of studies with longitudinal follow-up limits our understanding of the sustainability of the interventions' effects. The absence of post-intervention follow-up prevents verification of whether the observed improvements[48–50], such as reductions in stress, burnout, or depressive symptoms, are sustained over time. This limitation is particularly relevant in research on workers' mental health, in which the effects of interventions are modulated by medium- and long-term organizational and contextual factors[51].

The predominance of studies involving elementary and secondary school teachers suggests a focus on contexts with greater emotional and pedagogical demands, which are frequently associated with occupational stress and emotional exhaustion[3]. However, the scarcity of research on early childhood and higher education teachers reveals significant gaps, considering that these segments also face specific challenges, such as emotional overload and pressures for academic productivity[52-54].

The higher frequency of worker-targeted interventions highlighted in this review reflects a fragmented approach to workers' mental health, in which individual-centered strategies prevail at the expense of actions aimed at working conditions, reinforcing the individualization of work-related suffering[55]. This pattern is also reflected in the outcomes investigated, which are

predominantly focused on reducing stress, anxiety, depression, and burnout, indicating that the evaluation of interventions remains guided by indicators of illness. This approach reduces mental health promotion to the mitigation of suffering, due to the lack of inclusion of outcomes that reflect the development of capabilities and the expansion of conditions conducive to health in the workplace.

This mismatch limits the scope and sustainability of the effects and highlights an imprecise conceptual framework, in which interventions labeled as "promotional" focus on managing distress without consistently incorporating the transformation of the conditions that underpin health in the workplace[20]. Although these interventions are associated with a reduction in symptoms, these gains do not always translate into improvements in occupational outcomes[56], which reveals the limited incorporation of psychosocial factors at work into this phenomenon.

The identification of only one study that used physical activity as an intervention[41] reinforces the limited incorporation of approaches aligned with a broad conception of mental health. This finding suggests the underutilization of strategies with the potential to promote not only individual well-being but also social interactions, a sense of belonging, and collective engagement in the school context. Similarly, the limited presence of work-oriented interventions, aimed at strengthening collective resources, work organization, and institutional practices, indicates that the analyzed strategies remained predominantly focused on the individual and on the management of symptoms or risk factors. Thus, there is less emphasis on approaches oriented toward promoting mental health from a broader perspective, one that considers the influence of organizational contexts, work relationships, and institutional conditions on the health and well-being of teachers[57].

These findings point to the need to reorient interventions by incorporating perspectives that integrate both individual and structural dimensions of teaching work, thereby expanding their potential impact. Interventions that do not bring about changes in organizational determinants, such as institutional support, professional relationships, and working conditions, tend to have limited effects on teachers' mental health[58]. In this regard, more than the multiplicity of components, what stands out is the need for approaches capable of integrating the reduction of occupational risks with the strengthening of positive resources, such as flourishing, resilience, and collective capacities—which are central to the promotion of mental health[9,59].

The heterogeneity in the duration of interventions, ranging from brief interventions to long-term programs, was also a key finding of this review. Evidence suggests that longer-term programs, accompanied by periodic monitoring and reinforcement, produce more consistent and sustainable effects, especially in contexts of chronic stress[60]. The lack of detailed information on the duration of exposure and the components of the interventions underscores the need for methodological standardization and transparency in the description of programs, in accordance with the CONsolidated Standards of Reporting Trials (CONSORT)[61] and the Template for Intervention Description and Replication (TIDieR)[62], as well as international best practices in evidence-based research[63].

The identified methodological limitations, including the absence of a control group, non-randomized designs, small sample sizes, and the predominant use of self-reported measures, compromise, to some extent, the internal validity of the studies and restrict causal inferences regarding the observed effects. The lack of longitudinal follow-up and participant attrition also limit the assessment of the sustainability of results over time[64]. Taken together, these aspects indicate that the reported effects should be interpreted with caution and that the evidence is still insufficient to support more robust conclusions about the impact of the interventions. Therefore, advancing the field requires experimental designs, the use of validated instruments, and longitudinal follow-up, with process and impact evaluations[65].

This scoping review highlighted the need to move beyond an individual-centered model toward approaches that integrate organizational and contextual dimensions of teaching work. By synthesizing the evidence, this study helps to clarify the limitations of the field and guide the development of more integrated

and sustainable interventions. Therefore, future studies should explore multicomponent interventions, using interdisciplinary and participatory approaches, aimed at the broader promotion of mental health in the educational context.

The main limitations of this review include the diversity of study designs, educational contexts, and instruments used, which hinders direct comparisons between studies. Also noteworthy is the possibility of publication and indexing bias, despite the extensive search across multiple databases and the grey literature. The inclusion of studies from journals with potentially limited editorial rigor may represent an additional source of bias, as these publications have been associated with methodological inconsistencies and less transparency in the peer-review process. Finally, the eligibility criterion focused on interventions aimed exclusively at teachers may have restricted the inclusion of programs targeting both teachers and students simultaneously.

CONCLUSION

This scoping review showed that interventions aimed at promoting teachers' mental health in the workplace were, for the most part, individual interventions, with a particular emphasis on programs based on mindfulness and cognitive-behavioral approaches. Organizational and multicomponent interventions were less common, indicating limited incorporation of strategies targeting working conditions and the structural and contextual factors related to teacher mental health issues.

Regarding outcomes, it was observed that most interventions primarily assessed indicators of mental health issues, such as stress, burnout, anxiety, and depression, while outcomes related to mental health promotion were less explored. Furthermore, the interventions were associated with a reduction in symptoms of mental health issues, but with limited evidence regarding the sustainability of the effects and their impact on working conditions. The main limitations described included the absence of a control group, non-randomized study designs, small sample sizes, the predominant use of self-reported measures, and the lack of longitudinal follow-up.

The findings indicated the need to broaden the scope of interventions, incorporating approaches that address organizational and contextual dimensions of teaching work and outcomes that more comprehensively reflect mental health promotion. In the field of research, the importance of more robust study designs and the standardization of outcomes was highlighted. In the context of health education and practices, the results reinforced the inclusion of teachers' mental health as a component of working conditions, with the potential to support intersectoral actions in the school environment.

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Availability of data and materials

Access to the dataset may be granted upon request to the corresponding author.

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