

# Occupational stress, mental health, and gender among higher education teachers: an integrative review

Estresse ocupacional, saúde mental e gênero entre docentes do ensino superior: revisão integrativa

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## Abstract

The teacher's work in universities has been marked by exhaustive overload with intensive and precarious work conditions. Furthermore, studies regarding gender, health, and teacher's work are still scarce. In this article, we aimed at identifying and critically evaluating the scientific evidence regarding occupational stress and mental health among higher education teachers from a gender perspective. We performed an integrative review of literature by searching on PubMed, SciELO, and LILACS, between May and June 2019, from combinations of the indexed descriptors: *occupational stress*; *mental disorder*; *mental health*; *higher education*; *faculty*; *universities*; and the keywords: *faculty teacher*; *faculty teachers*; *university teacher*; *university teachers*; *academic setting*; *academic settings*. The results indicate that occupational stress is common in universities, with teachers showing increasing dissatisfaction and higher prevalences of mental disorders and depressive symptoms. The need for accountability of educational managers is evident. Gender perspective was absent or scarce in the scientific literature revised. Concentrating on measurements to improve the quality of work in universities making them an equally pleasant space for men and women is needed.

**Keywords:** Mental Health; Faculty; Gender and Health; Review.

## Resumo

O trabalho docente nas universidades tem sido marcado por sobrecarga exaustiva com a lógica do trabalho intensificado e precarizado. Além disso, estudos relacionando gênero, saúde e trabalho docente ainda são escassos. Neste artigo, objetivou-se identificar e avaliar criticamente as evidências científicas relacionadas ao estresse ocupacional e aos transtornos mentais entre docentes do ensino superior na perspectiva de gênero. Realizou-se revisão integrativa nas bases de dados *PubMed*, *SciELO* e *Lilacs*, entre os meses de maio e junho de 2019, a partir das combinações dos descritores indexados: *occupational stress*; *mental disorder*; *mental health*; *higher education*; *faculty*; *universities* e das palavras-chave: *faculty teacher*; *faculty teachers*; *university teacher*; *university teachers*; *academic setting*; *academic settings*. Os resultados sinalizam que o estresse ocupacional é uma realidade nas universidades, com docentes cada vez mais insatisfeitos(as) e apresentando altas prevalências de transtornos mentais e sintomas depressivos. Ficou evidente a necessidade de responsabilização por parte da gestão educacional. A perspectiva de gênero manteve-se ausente ou superficial nas produções acadêmicas revisadas. É preciso concentrar-se em medidas que possam melhorar a qualidade do trabalho nas universidades, tornando-as um espaço prazeroso para homens e mulheres de forma igualitária.

**Palavras-chave:** Saúde Mental; Docentes; Gênero e Saúde; Revisão.

## Introduction

The current configuration of teaching in Brazilian universities may represent exposure to stressful conditions, increasing the risk of mental disorders. The multiple demands relate to teaching, research, and extension activities, which are marked by competition for resources, efforts for career progression, and the execution of management positions (Bosi, 2007; Santos et al., 2016; Campos; Vêras; Araújo, 2020). The incorporation of the gender category in research on teaching at universities and health is essential, since it is an organizing dimension of social relations that produce inequalities (Mattos et al., 2015).

Both the working conditions and the psychosocial aspects of work can generate dissatisfaction and predispose the emergence of physical and mental distress in workers, that is, the Dejourian psychodynamics of work places the organization of work and mental distress at the centrality of the issue, in which defenses are collectively worked out by workers in coping with situations of distress in daily work (Dejours, 1987; Dejours et al., 1994; Jayet, 1994). Furthermore, the incorporation of new technologies and changes in the educational system have had implications on the worker's health and on the experiences of pleasure and suffering linked to work (Coutinho; Magro; Budde, 2011). This reality became much more explicit and revealed during remote teaching, resulting from the COVID-19 pandemic (Pinho et al., 2021; Souza et al., 2021).

Teaching work is flexible and multifaceted. Activity in academia, which has always been associated with the challenges involved in teaching-learning processes, under the aegis of capitalist social relations, has been characterized by task overload, with a noticeable expansion of activities (planning and teaching classes, preparing and filling out reports and forms, coordinating activities, participating in meetings, taking over departments/coordination, preparing and managing research and extension projects, publishing work, seeking external resources, responding to institutional emails, guiding students, participating in committees, providing consultancy, participating in events in the area of activity, among other various activities) (Carlotto; Palazzo, 2006; Campos et al., 2020). Carrying out this work demands increasingly high levels of specialization, long and intense hours

of dedication, multiple jobs, and precarious working conditions and contractual ties (Mascarenhas, 2010; Santos et al., 2016). All together, these characteristics have had negative impacts on teachers' health, with important differences between men and women (Araújo et al., 2006; Pinho et al., 2021).

Occupational stress is a response to conflicting situations present in the work context, with a strong impact on professional performance, increased absenteeism, and several of accidents in the workplace (Reis; Fernandes; Gomes, 2010). The coexistence of teaching with various occupational stressors, such as lack of support from managers and colleagues, task overload and consequent dissatisfaction, low autonomy, lack of funding for research, pressure for scientific production, in addition to the difficulty in fulfilling work and family demands have exposed university professors to psychological distress, as some authors point out (Wernick, 2000; Paranhos, 2002; Mascarenhas, 2010; Sun; Wu; Wang, 2011). These studies showed that common mental disorders (CMD) were among teachers' main health problems (Delcor et al., 2004; Reis et al., 2005; Sharpley et al., 1996). These disorders are characterized by such symptoms as fatigue, irritability, lack of energy and insomnia, and may represent partial destabilization or incomplete restitution of a mixed disorder of anxiety and depression (Goldberg; Huxley, 1992).

Increasingly, mental disorders have been recognized as a global health priority (PAHO, 2018). It is noteworthy, however, that women have presented more CMD than men, whether they are young, older and/or working (Araújo; Carvalho, 2009; Borim; Barros; Botega, 2013; Farias; Araújo, 2011; Jansen et al., 2011). These characteristics are also worrying aspects in the work context of teachers, since the prevalence of CMD has been significantly higher among women (56.8%) than among men (34.0%) (Araújo et al., 2006), with greater expressions of suffering and signs of psychological distress among female teachers (Neves; Brito; Muniz, 2019).

The assessment of gender in teaching and its effects on health is a *sine qua non* for understanding the dynamics and relationships involved in domination processes (Araújo; Pinho; Masson, 2019). In this way, studies on health and work from a gender perspective can bring to light collective problems that remain hidden when differences are obscured,

since gender analysis goes beyond the biological difference between the sexes, being conceived as an organizing axis of social relations (Scott, 1990). Based on the above, this study aims to identify and critically evaluate scientific evidence related to occupational stress and mental disorders among higher education teachers from a gender perspective.

## Methodology

In this work, the integrative literature review (IR) method was used, which consists of synthesizing results obtained in research on a specific topic, signaling gaps in knowledge, possible practices for public health and the development of future studies. An integrative review allows the inclusion of studies that adopt different methodologies (Polit; Beck, 2006). The review was conducted based on the six operational steps proposed by Ganong (1987).

In the first stage (identification of the topic and selection of the research hypothesis or question), the following guiding questions were formulated: What evidence is available in quantitative studies on occupational stress and common mental disorders among higher education teachers? Does this evidence suggest that there are gender differences?

To conduct the second stage (literature search and establishment of inclusion and exclusion criteria), the following sources were included: PubMed (National Library of Medicine of the United States), SciELO (Scientific Electronic Library Online), and Lilacs (Latin American and Caribbean Literature in Health Sciences), as they are considered relevant to the field of study. The search took place from May to June 2019, using combinations of descriptors indexed in the Health Sciences Descriptors database (DeCS/MeSH): *occupational stress*; *mental disorder*; *mental health*; *higher education*; *faculty*; *universities* and the keywords: *faculty teacher*; *faculty teachers*; *university teacher*; *university teachers*; *academic setting*; *academic settings*. We used the Booleans AND, to associate the themes, and OR, to alternate keywords and capture the largest number of studies with higher education teachers.

The inclusion criteria for this integrative review were: original quantitative primary studies that answered the guiding question, published in Portuguese, English and Spanish, in any period, and

indexed in the selected databases. Relevant references were also included from the articles selected in the databases that addressed the question and inclusion criteria. Qualitative primary studies were not included; nor secondary integrative, narrative, or systematic review studies. Duplicate articles published in one or more databases were excluded, as well as those that did not answer the guiding question.

From this phase onwards, with the aim of summarizing and documenting the selected studies in a concise and clear way (third stage), a data collection instrument was used to extract the basic and relevant information from each study (JBI, 2014). The results are presented including information on the identification of the study, methodological characteristics, main findings, recommendations, and conclusions indicated.

In order to inform whether the studies analyzed two possible analytical and interpretative senses in the application of the gender concept, the methodological consistency in the use of the complete or partial sense was assessed: the **complete sense** takes into account the social and cultural differences between men and women—or between masculinities and femininities—as well as the understanding of how these differences are produced as inequalities of power; on the other hand, the **partial sense** occurs when there is only a descriptive comparison of the differences between masculine and feminine, without interpretation

of power issues (Araújo; Schraiber; Cohen, 2011). The sense of gender was considered absent when the study did not make any distinction between men and women.

To assess the level of evidence and methodological quality of the articles included in the review, the approach proposed by the Joanna Briggs Institute (JBI) and its collaborating entities was considered. The standardized instrument for descriptive studies was then used in the evaluation, in order to determine the extent to which a study addressed the possibility of bias in its design, conduct and analysis (JBI, 2014).

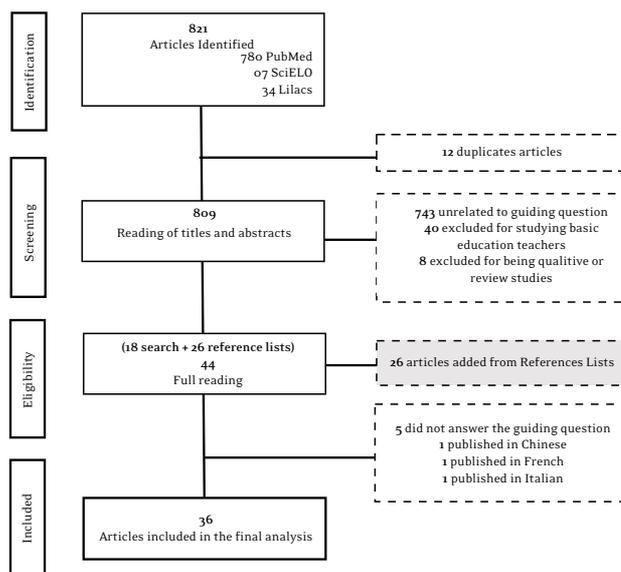
The subsequent steps (interpretation of results and presentation of the synthesis of the knowledge review) were systematized, identifying gaps in knowledge and providing support for new investigations and possible implementations based on scientific evidence.

## Results

Figure 1 presents the process of identification, screening, eligibility, and final sample of included articles.

After surveying the publications in the databases, 821 articles were gathered. Of these, 12 were repeated publications and 791 articles were removed based on the exclusion criteria. These 18 selected studies were added to another 26 from the reference lists. In the end, the integrative review included 36 studies.

**Figure 1 – Main characteristics of the reviewed studies**



## General characteristics of studies

Table 1 summarizes the main characteristics of the reviewed studies. The years of publication of the 36 texts included in this review confirm the relevance of the articles in this area. The oldest was dated 1993 and the most current was 2018, with 75% of the studies carried out in the last ten years and 44.4% in the last five years. Regarding the study location, the investigations were predominantly Brazilian (41.7%). However, it is noteworthy that the other publications were concentrated in the Asian continent (25.0%), with emphasis on China (11.1%). The dominant language was English, but 38.9% were published in Brazilian journals and 61.1% in international ones (Table 1). All studies were classified as Level 4 (descriptive observational studies), more specifically level 4.b - cross-sectional studies, according to JBI (2014).

## Occupational stress in universities

The results of the review indicate that the university is an environment with the potential to generate many occupational stressors. The work carried out at the academy, with demands from teachers with intensified rhythms and precarious working conditions, was considered a situation that generated tension, dissatisfaction, and distress. The organizational conditions and practices of higher education are currently based on excessive workload and meeting multiple demands, with an impact on the distribution of time, observing, as a predominant characteristic, the scarcity of time to carry out tasks (Abouserie, 1996), lack of recognition (Biron; Brun; Ivers, 2008) and social support (Carlotto; Câmara, 2017), work overload (Sun; Wu; Wang, 2011), and work-family conflict (Carlotto; Câmara, 2017; Leung; Siu; Spector, 2000), in an increasingly competitive atmosphere between colleagues and stressful bureaucratic activities (Abouserie, 1996).

Among the phenomena related to occupational stressors, Burnout Syndrome (BS) was evaluated in 47.2% of the studies, from nine different countries: Brazil, Iran, China, Turkey, Spain, Philippines, Mexico, Croatia, and Colombia. In Brazil, studies revealed that the lack of autonomy, conflicting

relationships, overwork, long working hours and too many students in the classroom were the main predictors for BS (Carlotto; Câmara, 2017; Prado et al., 2017). Worse quality of sleep was also a consequence of stress among teachers (Sousa et al., 2018).

## College teachers are (dis)satisfied with their work

Of the 36 studies selected in the review, eight addressed the topic of job satisfaction, of which none were conducted in Brazil (Abouserie, 1996; Cladellas-Pros; Castelló-Tarrida; Parrado-Romero, 2018; Colacion-Quiros; Gemora, 2016; Cooper; Kelly, 1993; Leung; Siu; Spector, 2000; Pan et al., 2015; Schindler et al., 2006; Winefield; Jarrett, 2001). Perceived organizational support and psychological support were important predictors of job satisfaction in a study carried out in China (Pan et al., 2015). In a survey from the Philippines, excess pressure and lack of time to carry out activities were ascribed to job dissatisfaction; another study, carried out in Spain, pointed to contractual ties (temporary contracts) as an important factor in this situation (Cladellas-Pros; Castelló-Tarrida; Parrado-Romero, 2018; Colacion-Quiros; Gemora, 2016). In studies carried out in the United Kingdom and the United States, work stress was the factor most associated with job dissatisfaction (Abouserie, 1996; Schindler et al., 2006). In contrast, in the Australian study, teachers were, in general, satisfied with their work. In another, from Hong Kong, teachers with higher academic degrees scored higher in job satisfaction (Leung; Siu; Spector, 2000; Winefield; Jarrett, 2001).

## Common mental disorders and depressive symptoms in the academic environment

Mental disorders among higher education teachers were relevant in several regions of the world: seven different countries (Brazil, Turkey, Spain, USA, Australia, Hong Kong, United Kingdom) were concerned with pointing out the effects of teaching work on the mental health of these workers.

The prevalence of CMD ranged from 17.3% to 20.1% in some studies carried out in Brazil (Tavares et al., 2012; Araújo; Santos, 2013; Mascarenhas et al., 2014; Ferreira et al., 2015). In a survey carried out

in Australia, professors involved in teaching and research showed greater psychological stress and less satisfaction with their work, since they live with increased pressure resulting from financial cuts in higher education and increased productivity burdens in teaching (Winefield; Jarrett, 2001). A study carried out in China, with 1210 professors from six universities, found a high prevalence (58.9%) of depressive symptoms, with psychological support as a positive resource for improving mental health (Shen et al., 2014). It is important to highlight that the theoretical focus and instruments used to assess mental disorders varied across studies.

Higher prevalences of common mental disorders were observed in women (Mascarenhas; Araújo; Santos, 2013; Kataoka et al., 2014), younger people, those who exerted greater effort at work (Ferreira et al., 2015), those who had little control over their work, and those who were dissatisfied with the physical and organizational conditions of universities (Mascarenhas; Araújo; Santos, 2013). In the study by Araújo et al. (2005), 72.6% of teachers reported at least one health complaint, and among the most frequently reported were mental fatigue, forgetfulness, and sleepiness (Araújo et al., 2005).

## Gender invisibility in teaching work

The literature investigated in this review certifies the invisibility of gender discussions in studies on teaching work in higher education, as well as the effects of work on these workers' health.

Regarding the classification of the analytical potential of the gender category (Araújo; Schraiber; Cohen, 2011), two studies designed gender analysis with signs of disparity between men and women in teaching in the United Kingdom and Croatia. Women were more dissatisfied than men, but the latter had higher frequencies of mental illness. Even so, these studies were classified as analysis in the **partial sense** (Cooper; Kelly, 1993; Slišković; Maslić Seršić, 2011).

Another eight studies (22.2%) also achieved only a partial sense in their materials, that is, a merely descriptive sense, within a comparative perspective, without criticizing the historical patterns of existing social, economic, and political power relations.

The remaining twenty-six (72.2%) did not identify any sense of gender (**absent sense**) in their analyses or interpretations (Table 1).

**Table 1 – Distribution of studies included in the integrative review according to authors, year, country of origin, study population, and gender.**

N	Authors/Reference	Year	Country of Origin	Study Population	Sense of Gender
1	Nascimento et al., 2018	2018	Brazil	48 health faculty members	Absent
2	Cladellas-Prós, Castelló-Tarrida e Parrado-Romero, 2018	2018	Spain	145 faculty members	Absent
3	Sousa et al., 2018	2018	Brazil	19 faculty members	Absent
4	Carlotto e Câmara, 2017	2017	Brazil	250 faculty members	Absent
5	Prado et al., 2017	2017	Brazil	72 health faculty members	Partial Sense
6	Nazari, H. et al., 2016	2016	Iran	111 faculty members	Absent
7	Colacion-Quiros e Gemora, 2016	2016	Philippines	55 faculty members	Absent
8	Pu et al., 2017	2016	China	357 faculty members	Absent
9	Ferreira et al, 2015	2015	Brazil	175 health faculty members	Absent
10	Pan et al., 2015	2015	China	1210 faculty members from six universities	Absent

continues...

**Table 1 – Continuation.**

N	Authors/Reference	Year	Country of Origin	Study Population	Sense of Gender
11	Kirchhof et al., 2015	2015	Brazil	107 health faculty members	Absent
12	Dalagasperina e Monteiro, 2014	2014	Brazil	202 faculty members	Absent
13	Rodríguez, Hinojosa; e Ramírez, 2014	2014	Mexico	59 faculty members	Absent
14	Kataoka et al., 2014	2014	Japan	405 faculty members	Partial Sense
15	Tavares et al., 2014	2014	Brazil	130 health faculty members	Absent
16	Shen et al., 2014	2014	China	1210 faculty members from six universities	Absent
17	Camargo et al., 2013	2013	Brazil	393 faculty members	Partial Sense
18	Costa et al., 2013	2013	Brazil	169 faculty members from seven institutions	Absent
19	Mascarenhas, Araújo e Santos, 2013	2013	Brazil	96 health faculty members	Partial Sense
20	Tavares et al., 2012	2012	Brazil	130 health faculty members	Absent
21	Caran et al., 2011	2011	Brazil	54 faculty members	Absent
22	Cladellas e Castelló, 2011	2011	Spain	172 faculty members	Partial Sense
23	Slišković; Maslić Seršić, 2011	2011	Croatia	1,168 faculty members	Partial Sense
24	Sun, Wu e Wang, 2011	2011	China	827 faculty members	Absent
25	Correa-Correa e Zambrano, Chaparro, 2010	2010	Colombia	44 faculty members	Absent
26	Zhong et al., 2009	2009	China	300 faculty members	Absent
27	Sousa e Mendonça, 2009	2009	Brazil	233 faculty members	Absent
28	Biron, Brun e Ivers, 2008	2008	Canada	1086 employees and 395 faculty members	Absent
29	Alpoz et al., 2008	2008	Türkiye	110 health faculty members	Partial Sense
30	Otero-López, Mariño e Bolaño, 2008	2008	Spain	813 faculty members	Absent
31	Schindler et al., 2006	2006	USA	56 academic doctors and 1,951 health faculty members	Partial Sense
32	Araújo et al., 2005	2005	Brazil	314 faculty members	Absent
33	Winefield e Jarrett., 2001	2001	Australia	2,040 employees (65.4% of faculty members)	Partial Sense
34	Leung, Siu e Spector, 2000	2000	Hong Kong	106 faculty members	Absent
35	Abouserie, 1996	1996	UK	414 faculty members	Partial Sense
36	Cooper e Kelly, 1993	1993	UK	2,638 management and 287 higher education faculty members	Partial Sense

## Educational management and effective measures for universities

Of the studies reviewed, all made at least one suggestion, proposal, or recommendation for higher education education managers, both national and international (Table 2).

Two studies, in China and the United Kingdom, indicated investment in training and qualifications, with emphasis on those relating to aspects of time management, use of more adaptive coping strategies, and development of decision-making skills in the academic environment (Cooper; Kelly, 1993; Pan et al., 2015) (Table 2).

Some studies have proposed intervention measures with the aim of alleviating tension and ensuring a more productive and healthy teacher, among which the following stand out: development

of quality social support (Otero-López; Mariño; Bolaño, 2008; Carlotto; Câmara, 2017, provision of more flexible schedules (Pan et al., 2015), measures that provide greater control over work (Kataoka et al., 2014) and autonomy (Tavares et al., 2012), investment in organizational infrastructure, reduction of demands imposed by the educational system (Winefield; Jarrett, 2001), as well as the implementation of measures to increase enthusiasm, resilience and optimism (Pan et al., 2015) .

The inclusion of support programs with periodic monitoring, psychological care, and individual or group counseling has been proposed, in different studies, as an intervention that can prevent absenteeism and mental illness in university institutions (Abouserie, 1996; Schindler et al., 2006; Shen et al., 2014; Tavares et al., 2014).

**Table 2 – Main recommendations indicated in the articles evaluated**

Authors Year	NEW STUDIES
Nascimento et al., 2018 Cladellas-Prós, Castelló-Tarrida; Parrado-Romero, 2018 Sousa et al., 2018 Carlotto; Câmara, 2017 Nazari et al., 2016 Pu; Ma; Sang, 2016 Ferreira et al., 2015 Tavares et al., 2014 Camargo et al., 2013 Costa et al., 2013 Tavares et al., 2012 Biron; Brun; Ivers, 2008 Winefield; Jarrett, 2001	<ul style="list-style-type: none"> <li>- Studies with representative and heterogeneous samples in different regions of Brazil.</li> <li>- Longitudinal studies.</li> <li>- Comparative studies including faculty members from public and private universities.</li> <li>- Studies that address different domains (sociodemographic, work, risk behaviors).</li> <li>- Studies with analyses on risk management, impacts of changes in higher education teaching practice and precarious work.</li> </ul>
Authors Year	GAPS FOR DEBATE
Mascarenhas; Araújo; Santos, 2013 Dalagasperina; Monteiro, 2014	<ul style="list-style-type: none"> <li>- Debate on aspects of teaching work and its effects on these workers' health.</li> <li>- Debates involving different spheres (educational institution and community/educational institution and teachers/educational institution and students) for discussions on topics such as education, respect, citizenship, and the effects of stress.</li> </ul>

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**Table 2 – Continuation.**

Authors Year	UNIVERSITY MANAGEMENT
<p>Colacion-Quiros; Gemora, 2016                      Pan et al., 2015                      Dalagasperina; Monteiro, 2014                      Tavares et al., 2014                      Shen et al., 2014                      Camargo et al., 2013                      Costa et al., 2013                      Shen et al., 2014                      Camargo et al., 2013                      Costa et al., 2013                      Mascarenhas; Araújo; Santos, 2013                      Sun; Wu; Wang, 2011                      Sousa; Mendonça, 2009                      Biron; Brun; Ivers, 2008                      Araújo et al., 2005                      Leung; Siu; Spector, 2000                      Cooper; Kelly, 1993</p>	<ul style="list-style-type: none"> <li>- Use data produced in studies as important elements for university management, assuming new practices considering the public education system and the demands that are imposed on workers.</li> <li>- University managers and union representatives make the mental health situation of faculty members visible</li> <li>- Promote and take responsibility for appropriate intervention measures.</li> <li>- Provide greater support regarding administrative issues in private institutions and have a smaller number of students per class.</li> <li>- Provide means to increase teacher satisfaction levels, both financially and academically</li> <li>- Offer special attention to aspects of voice use, body posture, mental exhaustion, infrastructure, process, and work organization.</li> <li>- Adopt joint tasks between teachers, students, educational institution, family, and society in general.</li> </ul>
Authors Year	COPING STRATEGIES
<p>Carlotto; Câmara, 2017                      Colacion-Quiros; Gemora, 2016                      Nazari et al., 2016                      Pan et al., 2015                      Kataoka et al., 2014                      Tavares et al., 2014                      Tavares et al., 2012                      Caran et al., 2011                      Zhong et al., 2009                      Sousa; Mendonça, 2009                      Alpoz et al., 2008                      Otero-López; Mariño; Bolaño, 2008                      Schindler et al., 2006                      Winefield; Jarrett, 2001                      Abouserie, 1996                      Cooper; Kelly, 1993</p>	<p><u>Preventive</u></p> <ul style="list-style-type: none"> <li>- Promotion of health in daily work with new means that provide a reduction in work stressors and promote well-being during the working day.</li> <li>- Implement measures to increase enthusiasm, resilience, optimism, and alleviate work tension.</li> </ul> <p><u>Actions on Working Conditions</u></p> <ul style="list-style-type: none"> <li>- Flexible working hours; recognize teaching contributions to the institution, invest in funding for research, provide opportunities for career progression, encourage the involvement of teachers in institutional decision-making, evaluate early signs of illness; consider control over work and psychological demands in the context of work stress; consider stressful life events.</li> </ul> <p><u>Trainings</u></p> <ul style="list-style-type: none"> <li>- In the areas of time management, development of interpersonal skills, use of more adaptive coping strategies, techniques to manage stress.</li> </ul> <p><u>Social support</u></p> <ul style="list-style-type: none"> <li>- Ensure greater autonomy.</li> <li>- Bring individual goals closer to organizational ones in college teaching work.</li> <li>- Invest in quality interpersonal relationships in the work environment.</li> <li>- Support younger teachers, as they were more likely to become mentally ill.</li> <li>- Stimulate social support networks (family and friends) and reinforce the belief in positivism (optimism).</li> </ul> <p><u>Health services</u></p> <ul style="list-style-type: none"> <li>- Implement/maintain a health service committed to the health of the academic community.</li> <li>- Provide medical and psychological support with counseling and support programs ensuring a productive and stable worker.</li> </ul>

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## Discussion

Some points of convergence emerge from the analysis of the 36 articles in this review. They include: (1) occupational stress as a real problem in the context of universities; (2) factors associated with job satisfaction/dissatisfaction among higher education teachers; (3) high prevalence of mental disorders and depressive symptoms in the academic environment; (4) invisibility of the relationship between gender and teaching health; and, finally, (5) the accountability of educational management with proposals to support and improve working conditions at universities. The analysis of the methodological quality of the articles included in the review, according to the JBI tool, shows that most studies had their results evaluated using objective criteria and appropriate statistical analyses.

The evidence from this review points to the presence of occupational stress in universities in different regions of the world. As already mentioned, this stress arises as a response to exhausting and conflicting situations in the work environment. In this sense, the new teaching practice, a reflection of great social pressure, reflects a context of high demands on the rhythms/times of work production, with harmful consequences for teachers. This tension causes physical and emotional exhaustion, with the potential to initiate depression, feelings of dissatisfaction with one's work (Batista et al., 2016), as well as high prevalence rates of Burnout Syndrome and common mental disorders (Campos; Vêras; Araújo, 2020).

A central issue emerges in this debate as essential: the precariousness of teaching work and its associated factors. There is a complex process in the relationship between job insecurity and teacher health. Teaching work began to be structured based on degraded forms of work, in which low pay, lack of recognition, situations of violence, and overload of demands can have significant consequences on the quality of teaching-learning, as well as on the health of the category (Leung; Siu; Spector, 2000; Pereira et al., 2014). In other words, a professor's vocation changes in contemporary times, with exaggerated duties and tasks not typical of their profession (Fritz; Peixoto, 2022).

The way work is structured defines the condition of work activity as a producer of health or illness (Araújo, 2008). Some studies in this review showed significant prevalence of CMD and depressive symptoms among professors: 19.5% (Ferreira et al., 2015) and 20.1% (Tavares et al., 2014) in studies in Brazil; 20% of professors presented depressive symptoms in the study carried out in the United States (Schindler et al., 2006) and, in the Chinese study, this percentage reached 58.9% (Shen et al., 2014). Worldwide, the number of people with CMD has been increasing, particularly in low-income countries, resulting in losses in terms of health and work. Depression was classified by the World Health Organization (WHO) as the greatest predictor of global disability, and it is estimated that 4.4% of the world's population suffers from depressive disorder and 3.6% from anxiety disorder (WHO, 2017). In Brazil, based on recent data on the mental disorders that caused the most leaves of absence among university teachers, it is possible to conclude that depression accounted for 53% of leaves, acute stress reaction reached 8%, and anxiety 7%, showing the seriousness of this problem (Batista et al., 2016).

These percentages, however, have distinctions if analyzed using gender theories. Women are most affected by CMD, a pattern maintained by the teaching category, whether in basic or higher education. In the study with preschool and elementary school teachers in Vitória da Conquista, Bahia, considering the logistic regression model, women presented 2.6 times more psychological disorders than men (Porto et al., 2006). In the year of the COVID-19 pandemic, in a study conducted with 1444 teachers from the private network, female teachers reported alarming health situations—anxiety attacks (53.7%), bad mood (78.0%), common mental disorders (69.0%) and poor sleep quality (84.6%) (Pinho et al., 2021).

Of the four medical universities in the United States, female members of the faculty were more affected by anxiety, depression, and headache than men (Schindler et al., 2006). This evidence is still poorly interpreted from a gender perspective in discussions about teaching work at universities, and differences between men and women tend to be naturalized. This supports the legitimacy of carrying out discussions on the double working day experienced by women after entering the job market. A promising path in this debate is to reinforce

the need to include, in analyses and discussions, the calculation of the total workload (professional and domestic) for men and women, in order to allow more accurate assessments of the types of exposure to which they are subjected (Araújo; Carvalho, 2009).

Women are the majority in schools and universities, a structuring element in the distribution of vulnerabilities, therefore, they directly affect the health status of men and women differently. The invisibility of this discussion persists, and the incorporation of elements that problematize gender asymmetries remain embryonic. Without this confrontation, it is not possible to advance in preserving teaching health (Araújo; Pinho; Masson, 2019).

The involvement of institutional management was recorded as essential in this path, as aspects of organizations and working conditions identified as predictors of illness need to be restructured. After all, the demand is often not only in educational responsibilities, but is also an exaggerated demand arising from management (Fritz; Peixoto, 2022). The organization of work is the result of decisions and definitions that take place in daily teaching, which, in turn, reflect the correlations of forces and the ability of macro and microstructural interest groups to be represented. Such evidence can also assist in union actions and struggles, as well as in structuring legal measures to protect the health of education professionals, with promising possibilities towards more substantial achievements (Araújo et al., 2003).

It is necessary to find alternatives that provide healthy and productive environments, in which teachers can develop free intellectual production, considering the time necessary for their working schedules, with possibilities for using their skills and subjectivities, truly contributing to the social, political, and economic development of a population (Cassandre, 2011). The effectiveness of preventive actions means that there is the possibility of improvements in work, with a greater desire to practice and remain in teaching (Fritz; Peixoto, 2022).

Results of the studies analyzed offer a body of evidence on the need to adopt measures to protect the health situation of education workers. That said, the practice of worker health surveillance allows the identification of risk factors associated with teaching health and helps possible transformations of working

conditions and guarantees the quality of assistance to these professionals as workers (Santana; Goulart; Chiari, 2012). This attention and monitoring to maintain academics' mental health can be supported by various preventive strategies to promote well-being at work. Increasing autonomy, recognition, training, and control over one's work can alleviate tension. However, the health services available to the academic community, such as medical and psychological support, in addition to counseling/support programs, are highlighted as measures that are still little used, but promising for structuring healthy work environments. After all, teaching health is directly related to the productive process present in universities, governed by productivity management, which is excessively close to what is currently observed in capitalist organizations (Cassandre, 2011).

Some methodological limits of the studies should be highlighted. All of them adopted a cross-sectional design, which limits the establishment of causal relationships, due to the impossibility of ensuring the temporal sequence of the events studied (Almeida Filho; Barreto, 2012). Another limit concerns samples, which are often convenience, small or have low response rates.

We highlight the impossibility of guaranteeing the quality of the results of the selected studies, due to the heterogeneous nature of the publications regarding the established methodological criteria, the cultural characteristics of the countries of publication, the number of people studied, as well as the theoretical and the use of different instruments to identify the relationships studied. Another possible limitation was the criterion for not including qualitative primary studies, a fact that may have led to an underestimation of the data presented. However, this review had an underlying objective of identifying the state of the art of cross-sectional studies on the topic. Another factor that must be considered is that the gender focus could only be carried out in part, as the majority of studies pointed to the absence of a sense of gender and, in less than half, the criterion was partial, without any deepening of the topic. Further research is necessary and must adopt different methodological/analytical approaches, in order to give greater visibility to all these issues addressed here.

In short, it is necessary to focus on measures that can improve the quality of work in universities, which are prerogatives to expand achievements in the work

space as a privileged space for obtaining pleasure and satisfaction for men and women, equally.

## Final considerations

The elements that make up the triggers for stressful symptoms and their consequences for health are the most varied, however, prevention is a promising path. To assess these teachers' mental health status, it is necessary to build and maintain health services committed to the worker's health. These strategies become investments in health and quality of teaching life, which reflect on the educational quality of higher education.

However, it is necessary to break with the naturalized and hegemonic discussion of an androcentric model surrounding teaching work. Gender relations involving the academic environment are topics that need to be further investigated in scientific productions in the public health field, in addition to the need to be made visible and held accountable. New achievements permeate the construction of a process that involves the most diverse social actors, starting with college teachers themselves, with support from the trade union movement, managers, as well as social and feminist movements.

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### Contribution of the authors

Pinho, Patrão, and Aquino participated in all stages, from the conception and design of the work to the analysis and discussion of the results. Freitas participated in data collection, analysis, and discussion. All participated in the critical review of the content

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