

Original Article

Working conditions and stress among college professors in the post-COVID-19 context

Condições de trabalho e estresse entre professores universitários no contexto pós-COVID-19

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Abstract

Introduction: The COVID-19 pandemic exacerbated existing stressors in academia, particularly for college professors. In Colombia, professors often face additional demands—large class sizes, teaching at multiple institutions, and concurrent teaching, research and service obligations—that disrupt occupational balance and may elevate stress. **Objective:** To investigate the relationship between working conditions and stress among Colombian college professors in the post-pandemic context. **Methods:** A cross-sectional study with 221 university professors recruited through convenience sampling from multiple institutions across three Colombian regions and two teaching modalities. Participants were invited to answer questionnaires to explore associations between socio-demographic and working-condition predictors and stress levels. Rigorous model diagnostics, including multicollinearity checks and fit assessments, were performed to ensure the validity of the findings. **Results:** 42.5% of the participants reported experiencing very high levels of stress. Significant gender differences emerged, with women reporting higher stress levels than men. Dissatisfaction with productivity and workday monotony were significant predictors of stress. Contrary to expectations, perceived monotony was associated with lower odds of being in the highest stress category, suggesting a possible return-to-routine effect in the post-pandemic occupational context, in which the re-establishment of predictable routines may operate as a temporary resource. **Conclusions:** It is necessary interventions addressing gender-specific stressors and productivity-related dissatisfaction among university professors. The unexpected finding that monotony correlates with lower stress in the highest-stress category invites further investigation and suggests that, in certain contexts, predictable routines may provide psychological relief. The findings inform primary prevention strategies for occupational health in higher education, supporting institutional efforts to protect lecturers' mental wellbeing and meaningful occupational participation.

Keywords: Occupational Stress, Working Conditions, Faculty, Post-Acute COVID-19 Syndrome, Occupational Health.

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Resumo

Introdução: A pandemia de COVID-19 exacerbou os fatores de estresse já existentes na academia, particularmente entre os docentes universitários. Na Colômbia, os docentes frequentemente enfrentam demandas adicionais — turmas numerosas, atuação em múltiplas instituições e obrigações simultâneas de ensino, pesquisa e extensão — que perturbam o equilíbrio ocupacional, podendo elevar os níveis de estresse.

Objetivo: Investigar a relação entre as condições de trabalho e o estresse entre docentes universitários colombianos no contexto pós-pandêmico. **Métodos:** Estudo transversal com 221 docentes universitários recrutados por amostragem por conveniência em múltiplas instituições de três regiões da Colômbia e em duas modalidades de ensino. Os participantes foram convidados a responderem questionários para explorar associações entre preditores sociodemográficos e de condições de trabalho e os níveis de estresse.

Diagnósticos rigorosos do modelo, incluindo verificações de multicolinearidade e avaliações de ajuste, foram realizados. **Resultados:** 42,5% dos participantes relataram experimentar níveis muito elevados de estresse. Diferenças significativas de gênero emergiram, com mulheres relatando níveis mais altos de estresse do que homens. Além disso, a insatisfação com a produtividade e a monotonia da jornada foram preditores significativos de estresse. Contrariamente às expectativas, a monotonia percebida foi associada a menores chances de pertencer à categoria de estresse mais alta, sugerindo um possível efeito de retorno à rotina (return-to-routine effect) no contexto ocupacional pós-pandêmico. **Conclusões:** São necessárias intervenções direcionadas para os fatores de estresse específicos de gênero e para a insatisfação relacionada à produtividade entre os docentes universitários. A descoberta inesperada de que a monotonia se correlaciona com níveis mais baixos de estresse na categoria de maior estresse convida a investigações adicionais e sugere que, em certos contextos, rotinas previsíveis podem proporcionar alívio psicológico. Os achados informam estratégias de prevenção primária para a saúde ocupacional no ensino superior, apoiando esforços institucionais para proteger o bem-estar mental dos docentes e a participação ocupacional significativa.

Palavras-chave: Estresse Ocupacional, Condições de Trabalho, Docentes do Ensino Superior, Afecções Pós-COVID, Saúde Ocupacional.

Introduction

The COVID-19 pandemic has profoundly impacted global education systems, with particularly far-reaching consequences for tertiary education and the lecturer workforce (Paixão et al., 2022; Calvo-Paz et al., 2022), presenting unprecedented challenges for college professors that persist in the post-pandemic era. As institutions transitioned from emergency remote teaching to a “new normal,” educators found themselves navigating a complex landscape of evolving pedagogical demands, technological adaptations, and shifting work-life boundaries. This rapid transformation has had significant implications for the mental health and working conditions of this population. Studies have shown that the pandemic exacerbated existing stressors in academia, such as work overload and job insecurity (Santamaría et al., 2021; Varol et al., 2021), while introducing new challenges like digital fatigue, difficulty in managing/acquiring new skills associated with remote education, and social isolation (Panisoara et al., 2020; Varol et al., 2021).

Higher-education professors face unique working conditions compared to other teaching levels, given their specific work settings and organizational structures (Medeiros et al., 2020). University teaching is, in this sense, a complex occupation that simultaneously requires the performance of teaching, research, service, mentoring and administrative roles, each with its own cognitive, relational and temporal demands.

The tension between teaching demands and research expectations is particularly acute in many Latin American higher-education systems, where institutional indicators tied to accreditation, tenure and national research-system categorisation generate sustained publication pressure that coexists with heavy teaching loads (Carrillo-González, 2024). From an occupational-balance standpoint, this configuration tends to expand the productive-occupation domain at the expense of self-care, rest and leisure, with potential consequences for occupational performance and wellbeing. The demanding workloads in teaching have been associated with increased stress, burnout, and job dissatisfaction, potentially impacting their mental health (Johnson et al., 2005; Maslach et al., 2001; Skaalvik & Skaalvik, 2010). In higher education, multiple academic demands, including long working hours, excessive activities, and pressures to increase productivity, performance, and competitiveness, trigger changes in health status (Freitas et al., 2021).

In Colombia, where socioeconomic disparities and infrastructure limitations compound these issues, the impact on college professors has been particularly pronounced. Colombian professors may teach up to six courses per semester and work at multiple universities simultaneously, sometimes at three or four institutions (Cantor-Cutiva et al., 2022). Recent post-pandemic evidence among Colombian college professors documents associations between work-related stress and a range of occupational-health indicators, suggesting that the post-COVID-19 phase has not yet been a return to baseline but rather a reconfiguration of demands (Carrillo-González & Atar-Piraquive, 2020; Carrillo-González et al., 2025). This context has led to an increasing need to extend work time, both inside and outside the academic environment, continuously requiring greater dedication from university faculty. The allocation of time increasingly to work demands, driven by the effort to meet academic requirements (Vidal et al., 2018), reduces the time available for personal activities such as leisure, rest, and social and family interactions. These dynamics have made teachers a population generally considered at risk for high levels of stress (Atar-Piraquive et al., 2022).

Lazarus & Folkman (1986) conceptualize stress as a dynamic and interactive process originating from the unique relationship between an individual and a challenging environment, compared to available resources. If the person perceives that a threatening situation surpasses their defenses, they experience stress. Work-related stress, therefore, refers to the contents of work itself and the tasks carried out in work settings (Nguyen & Ermasova, 2018), and is closely intertwined with psychosocial risks at work: interactions between the design and management of work and its social and organizational contexts that have the potential to harm workers' health (International Organization for Standardization, 2021). Among the elements most relevant to stress levels in university academic staff are lack of research funding, lack of support and control, task overload, poor leadership, communication problems, job insecurity (Gillespie et al., 2001; Tytherleigh et al., 2005; Winefield & Jarrett, 2001), number of students per class (Carrillo-González, 2020), poor physical conditions, and difficulty in meeting job and family demands (Biron et al., 2008).

From a complementary occupational-science perspective, lecturing can be approached as a meaningful occupation whose performance is shaped by the dialectic between personal, environmental and occupational factors. Within this lens, work-related stress is not only a psychological state but also an indicator of disrupted occupational balance and constrained occupational participation in the workplace.

The Job Demands–Resources (JD-R) model offers a parsimonious account of these dynamics: when occupational demands (workload, time pressure, role conflict) systematically exceed available resources (autonomy, social support, opportunities for development), strain emerges and wellbeing erodes (Bakker & Demerouti, 2017). Internationally, International Organization for Standardization (2021) and, in Colombia, Resolutions 2646 of 2008 and 2764 of 2022 (Colombia, 2008, 2022) require employers (including higher-education institutions) to identify, assess and manage psychosocial factors at work, providing a regulatory anchor for the present study. Reading post-pandemic faculty stress through this combined occupational-science and occupational-health lens situates the problem at the intersection of individual experience, occupational structure and institutional responsibility (Carrillo-González, 2024).

Although extensive research has documented the association between adverse psychosocial working conditions and elevated stress in higher education (Biron et al., 2008; Carrillo-González, 2024; Gillespie et al., 2001; Tytherleigh et al., 2005), there is limited knowledge about the specific workplace factors that may influence these outcomes among Colombian college lecturers in the post-COVID-19 context. Understanding the lasting effects of the pandemic on educators' stress levels and working conditions becomes crucial for designing institutional policies and occupational-health programmes that protect mental wellbeing, support retention and job satisfaction, and sustain meaningful occupational participation in academic work. Thus, this study aims to investigate the association between working conditions and stress among lecturers from multiple Colombian universities in the post-COVID-19 context. By conducting this research, we aim to inform the development of specific interventions and policies to improve stress management and overall wellbeing among university faculty.

Method

Design and participants

This cross-sectional study was conducted with approval from the Institutional Committee for Ethics in Research CEBIS (IRB) of the Fundación Universitaria del Área Andina, approval number: proyecto 63. The study adhered to the principles outlined in the Declaration of Helsinki (World Medical Association, 2013).

Participants were 221 college lecturers recruited through convenience sampling from multiple Colombian universities located in three regions of the country: Bogotá (capital district), Pereira (coffee axis) and Valledupar (Caribbean region). Recruitment covered two teaching modalities, face-to-face and virtual. The sample spanned a wide range of academic units, including health sciences, psychology, business and economics, nursing, optometry, basic sciences, law, design and arts, humanities, engineering, education, and physical training, among others. The invitation to participate was disseminated through institutional email channels at the participating universities. Inclusion criteria were being actively employed as a lecturer at one of the participating institutions and not currently undergoing pharmacological, alternative or complementary treatment for stress-related issues. Because recruitment relied on institutional emails and a convenience-sampling strategy, a defined sampling frame was not available, and a response rate cannot be calculated.

Instruments and Data Collection Procedures

Questionnaire on working conditions

To assess working conditions and gather demographic information, we employed a comprehensive questionnaire adapted from previous research (Cantor-Cutiva, 2011). This instrument collected data on various aspects of the teaching profession and work environment, including self-reported gender and age, years of teaching experience, average class hours per week, average number of students per class, noise levels, acoustics, air quality (dryness), temperature fluctuations, dust presence, and exposure to chemical substances, commute duration and time dedicated to recreational activities, perceived productivity and workday monotony. Items assessing classroom conditions (e.g., “noise in the classroom is too high”) were scored using an 11-point Likert-type scale ranging from 0 to 10, where 0 means “never” and 10 means “always”. Weekly time dedicated to recreational activities was categorized into ordinal ranges, spanning from “0 to 1 hour” to “10 or more hours”. These specific work-related conditions were selected based on prior studies that demonstrated their significant impact on teachers’ wellbeing and performance (Atar-Piraquive, 2020; Carrillo-Gonzlez, 2020).

Questionnaire for the evaluation of stress

We employed the third version of the Questionnaire for the Evaluation of Stress (Colombia, 2010), a comprehensive instrument designed to assess stress-related symptoms. This 31-item questionnaire categorizes stress symptoms into four primary domains: physiological (8 items), social behavior (4 items), work and intellectual (10 items), and psychological and emotional (9 items). Participants respond to each item using a 4-point Likert scale, ranging from “always” to “never”. The questionnaire’s concurrent validity was established through comparison with its predecessor, the second version (Villalobos, 2005), and by correlating its results with the general health, vitality, and mental health scales of the SF-36v2 questionnaire (Ware, 2007). Internal consistency reliability was assessed using Cronbach’s alpha, which yielded a coefficient of 0.954.

Procedure and ethical safeguards during data collection

After receiving the invitation through institutional email and providing written informed consent, participants completed all evaluation instruments via a Google Form questionnaire. The principal investigator was available to address technical questions about the instruments but did not inspect, verify or comment on any participant’s responses. Several safeguards were built into the procedure (no hierarchical relationship, individual completion at flexible times, anonymity by design, voluntariness and absence of consequences, right to withdraw) to mitigate the risks of social-desirability bias and any perception of coercion that could arise when an investigator is available during workplace data collection. The CEBIS ethics committee reviewed and approved both the data-collection procedure with this principal-investigator availability and the informed-consent form. Despite these safeguards, residual social-desirability bias inherent to self-report cannot be entirely eliminated.

Statistical Analysis

The statistical analysis was conducted using R version 4.4.1. Prior to analysis, data were meticulously inspected for completeness and consistency. No data was missing.

Outliers, identified using the interquartile range (IQR) method, were excluded from the analysis. Predictors and outcome variables were categorized and converted into appropriate data types. Descriptive statistics were calculated to summarize the study sample, with continuous variables primarily described using means and standard deviations (SD), and categorical variables summarized using frequencies and percentages.

Initially, we attempted to use an ordinal logistic regression model to analyze the 'stress' variable. However, due to violations of the proportional odds assumption, which suggested that the effect of predictors was not consistent across different stress levels, we opted for a multinomial logistic regression model. This approach was more appropriate for modeling categorical outcomes with more than two categories and did not require the proportional odds assumption. Gender was entered into the model as a socio-demographic predictor alongside the working-condition predictors (satisfaction with productivity level and workday monotony); we therefore use the term predictors rather than working conditions when referring collectively to the model variables. Model diagnostics were conducted to ensure robustness, including confirmation of the absence of multicollinearity through examination of Variance Inflation Factor (VIF) values, with predictors having VIF values greater than 10 scrutinized for potential issues. Model fit was assessed using log-likelihood and AIC values.

Results

Working conditions

The study sample consisted of 221 participants, distributed as follows by region/modality: Pereira, $n = 101$ (45.7%); Bogotá, $n = 93$ (42.1%); Valledupar, $n = 11$ (5.0%); and virtual modality, $n = 16$ (7.2%). With respect to gender identity (response options: male, female, other), 133 participants (60.2%) self-identified as female and 88 (39.8%) as male; no participant selected the other category. The age range of the participants spanned from 27 to 65 years, with a mean age of 42.9 years ($SD = 8.21$). Teaching experience varied widely among the participants, ranging from novice educators to those with extensive careers. The average years of teaching experience was 12.4 ($SD = 7.4$), with a range of 0 to 33 years. Examining the workload, participants reported teaching an average of 7.1 ($SD = 3.7$) class hours per week. The total class hours per week, including preparation and grading time, averaged 11.8 ($SD = 5.2$). Class sizes varied considerably, with an average of 62.7 students per class ($SD = 75.1$). The average commute time between home and workplace was 0.9 hours ($SD = 0.6$).

Regarding job satisfaction and working conditions, 153 participants (69.2%) reported feeling satisfied with their level of productivity, while 68 (30.8%) expressed dissatisfaction. In contrast to expectations, the majority of participants did not characterise their workday as monotonous (75.1%, $n = 166$), whereas 24.9% ($n = 55$) did report a monotonous workday. Classroom noise levels were generally reported as low to moderate, with the most frequent scores being 2 (18.1% of respondents) and 0 (10.9%). Classroom acoustics were rated favorably overall, with a modal score of 8 reported by 17.2% of participants. Air dryness in classrooms showed a bimodal distribution, with scores of 0 and 5 equally common (14.9% each).

Temperature fluctuations were less frequently reported as an issue, with the most common score being 0 (18.1% of respondents). Environmental factors such as dust and chemical exposure were generally reported as minimal. Dust presence in classrooms was predominantly low, with 37.1% of respondents reporting a score of 0.

Exposure to chemical substances was even less common, with 73.3% of participants indicating a score of 0.

Lastly, the study examined participants' allocation of time to recreational activities. The results indicate relatively low engagement in leisure pursuits, with the most common response being 2 on the scale (representing 2 to 3 hours per week), reported by 20.4% of participants.

Work-Related Stress, Gender and Working-Condition Predictors

Work-related stress levels in our study population ranged from 'Very low' (0) to 'Very high' (4), with the highest proportion of respondents (42.5%) reporting very high stress levels. A multinomial logistic regression analysis revealed significant associations between gender, satisfaction with productivity level, workday monotony and stress levels (Table 1).

Table 1. Associations between gender and working-condition predictors and self-reported work-related stress (multinomial logistic regression).

Parameter	Stress level							
	Low (1)		Medium (2)		High (3)		Very high (4)	
	Beta	SE	Beta	SE	Beta	SE	Beta	SE
(Intercept)	0.5746	1.453	0.4997	1.435	2.7207	1.237	4.5571	1.194
Gender ^a	-1.086	0.553*	-0.610	0.584	-1.182	0.483*	-1.463	0.467***
Satisfaction with productivity level ^b	0.6726	0.825	1.7854	0.761*	1.1914	0.701	1.6683	0.672*
Monotonous workday ^c	0.9701	1.262	-1.482	1.203	-1.847	1.092	-2.888	1.055**

*p < 0.05, **p < 0.01, ***p < 0.001. ^aReference category: female. Coefficients reflect log odds for male vs female respondents. Response options offered were male, female and other; no respondent selected other. ^bReference category: satisfied with productivity level. ^cReference category: non-monotonous workday. Note. Reference category for the outcome (stress) is "Very low (0)".

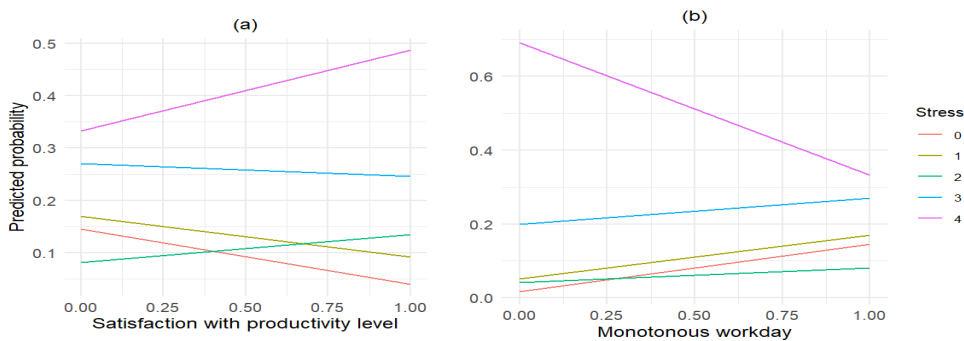


Figure 1. (a) Predicted probabilities of work-related stress categories vs satisfaction with productivity level. (b) Predicted probabilities of work-related stress categories vs monotonous workday.

The analysis indicated that men were less likely to experience higher stress levels compared to women. Specifically, men showed lower log odds of being in the 'Low' ($\beta = -1.0866$, $SE = 0.553$), 'High' ($\beta = -1.182$, $SE = 0.483$), and 'Very high' ($\beta = -1.463$, $SE = 0.467$) stress categories relative to women. Satisfaction with productivity levels also

emerged as a significant predictor of stress. Respondents who reported dissatisfaction with their productivity levels had higher log odds of experiencing 'Medium' ($\beta = 1.7854$, $SE = 0.761$) and 'Very high' ($\beta = 1.6683$, $SE = 0.672$) stress levels compared to those who were satisfied. Figure 1(a) illustrates the relationship between productivity satisfaction and the probability of each stress category. The monotony of the workday was another significant predictor of stress levels. Respondents who did not perceive their workday as monotonous had lower log odds of being in the 'Very high' stress category ($\beta = -2.888$, $SE = 1.055$) compared to those who reported monotonous workdays. Figure 1(b) depicts the relationship between workday monotony and the probability of each stress category.

Discussion

This study examined the relationship between stress and working conditions among professors from multiple Colombian universities in the post-COVID-19 context, drawing on combined occupational-science and occupational-health frameworks. Our findings revealed significant gender differences in self-reported stress, with women reporting higher levels of stress than men. This pattern is consistent with previous research (Graves et al., 2021; Pandey & Tripathi, 2001) and may reflect a combination of differential exposure to demands (e.g., higher caregiving and domestic loads), differential availability of resources, and gendered patterns of stress appraisal and reporting. From an occupational-balance standpoint, women in academia tend to absorb a disproportionate share of unpaid productive and self-care occupations, narrowing the room for rest and leisure occupations and intensifying role conflict (Carrillo-González, 2024). This finding contributes to the growing body of literature on gender-specific stress responses in academic environments across cultures and underscores the need for a gender-sensitive, preventive approach to occupational health in universities, rather than relying solely on reactive interventions once high stress has crystallised.

Strategies should therefore be conceived as primary preventive measures. For example, redistributing administrative workloads, providing protected research time, and embedding gender-sensitive criteria in tenure and promotion processes, rather than as remedial responses to a problem already in place.

The significant positive coefficients for 'Satisfaction with productivity level' in the 'Medium' and 'Very high' stress categories suggest that dissatisfaction with productivity is associated with higher stress. This finding is consistent with Chaudhry's (2012) research, which reported an inverse relationship between occupational stress and overall job satisfaction in faculty members of private universities, although no such association was observed in public universities. This difference highlights how organizational settings can modulate teachers' stress outcomes. Moreover, this relationship appears to be bidirectional, as multiple studies have shown that university lecturers experiencing higher levels of job stress tend to feel unsatisfied with their work and are more likely to consider leaving their organizations (Jentsch et al., 2023; Wang et al., 2020). Read through the JD-R lens (Bakker & Demerouti, 2017), perceived productivity dissatisfaction can be interpreted as a signal of imbalance between demands (publication and accreditation pressures, administrative load) and resources (autonomy, feedback, recognition, opportunities for development). Universities may therefore consider implementing clearer and more transparent productivity metrics, providing dedicated resources for research and teaching, and offering ongoing pedagogical, methodological and digital-pedagogy upskilling, alongside time-management training, all of which strengthen perceived competence and self-efficacy as resources within the JD-R framework.

Additionally, regular two-way check-ins between lecturers and department heads, in which lecturers can raise concerns, propose adjustments to their workload, and contribute to decisions affecting their occupational performance, could help identify and address productivity-related concerns before they escalate into significant stressors. Such two-way exchanges align with the occupational-justice principle of ensuring meaningful participation in decisions that shape one's own occupational life.

Our study found a significant negative coefficient for 'Monotonous work' in the highest stress category, suggesting that perceiving the workday as monotonous was associated with lower odds of being in the 'Very high' stress category. This counter-intuitive direction warrants careful interpretation. Most prior evidence on teaching populations points the opposite way, but that evidence comes predominantly from school-teacher samples rather than from higher-education contexts: Khairani et al. (2021) reported that female high-school teachers showed elevated stress when home and school work were simultaneously overloaded and monotonous, and Hassard et al. (2017) identified monotony, prolonged hours and role stressors as sources of stress among high-school teachers. We cite these school-level studies because they are the closest empirical referents available within teaching populations; the absence of a comparable post-pandemic study in higher education makes the contrast that emerges in our data all the more notable. Likewise, evidence from Chinese universities suggests that moderate work pressure can be associated with stronger organizational commitment, indicating that the relationship between work intensity and wellbeing is not monotonic (Wang et al., 2020).

A plausible reading of our finding, consistent with the post-pandemic context, is the existence of a return-to-routine effect: after a phase of acute uncertainty, role disruption and abrupt pedagogical reconfiguration brought about by COVID-19, the re-establishment of predictable temporal and task structures may itself constitute a temporary occupational resource. From this standpoint, what may be protective is not monotony as such, but the predictability and regularity that frequently accompany work that is perceived as monotonous, particularly in contrast to the upheaval of the recent past.

Conceptual Considerations: Monotony, Routine, and Occupational Rhythm

A more fine-grained vocabulary is needed to interpret this finding without overreach. We propose distinguishing three related but non-equivalent constructs. *Monotony* refers to perceived sameness or lack of variation, often with a negative valence, a feeling of dullness or under-stimulation. *Predictable routine* refers to a temporally structured organisation of activities whose contents may still be varied and intellectually stimulating. *Occupational rhythm* refers to the patterning of occupations across the day, week and academic semester, including the alternation between productive, self-care, leisure and rest occupations central to occupational-balance theory. Read through this vocabulary, our finding does not warrant the conclusion that *monotony is good for lecturers*; rather, it raises the hypothesis that predictability and rhythmic patterning (sometimes coexistent with subjective monotony, sometimes not) may have functioned as protective factors in the immediate post-pandemic phase. Disentangling these constructs empirically will require instruments that capture predictability and occupational rhythm separately from perceived monotony, a direction we identify as a priority for future research.

Practical Implications for Higher-Education Institutions

Our findings most directly support recommendations focused on primary prevention. That is, on identifying and reducing exposures at the source of work-related stress, before strain emerges. The cross-sectional and convenience-sampled nature of the data does not permit empirical claims about early-identification mechanisms or treatment programmes; the recommendations below should therefore be read as plausible directions to inform institutional planning rather than as evidence-based mandates.

Three sets of primary-prevention measures map directly onto the significant predictors identified in our analysis. First, with respect to gender, the higher stress reported by women calls for structural interventions in workload allocation and academic-career criteria: redistributing administrative and pastoral loads that disproportionately fall on female academics, embedding gender-sensitive criteria in tenure and promotion processes, and reviewing meeting and committee-assignment practices to avoid amplifying invisible work (Carrillo-González, 2024; Lemon, 2024). Second, with respect to perceived productivity, the association between dissatisfaction and elevated stress points to upstream changes in how productivity is defined, measured and supported: transparent and balanced productivity metrics; protected time for research and pedagogical preparation; dedicated resources for teaching and research; and ongoing pedagogical, methodological and digital-pedagogy development opportunities that strengthen perceived competence and self-efficacy as resources within the Job Demands–Resources framework (Bakker & Demerouti, 2017). Third, with respect to workday monotony, the conceptual distinction articulated in the previous section invites institutions to design academic schedules that combine stable temporal structures with intellectually varied content, preserving the predictability and occupational rhythm that may operate as protective factors without conflating them with under-stimulating work.

Across these measures, a unifying principle is that lecturers' wellbeing is best treated as an occupational, organizational and institutional responsibility rather than a private concern to be managed individually. This responsibility has regulatory grounding both internationally, through International Organization for Standardization (2021) guidelines for managing psychosocial risks at work, and nationally, through Colombian Resolutions 2646 of 2008 and 2764 of 2022, which require employers, including higher-education institutions, to identify, assess and manage psychosocial factors at work. Integrating psychosocial-risk assessments into institutional occupational-health management systems, and acting on their findings through the kinds of primary-prevention measures outlined above, is a concrete and accessible next step for universities.

Limitations

Some limitations of the present study warrant consideration. The cross-sectional design employed in this research precludes the inference of causal relationships among key variables. Although the documented associations were theoretically grounded, the directionality of these relationships remains uncertain. Future longitudinal research utilizing cross-lagged models could provide more definitive insights into the causal nature of these associations.

The sample was recruited through convenience sampling via institutional email channels, without a defined sampling frame; a response rate cannot therefore be calculated and self-selection bias cannot be ruled out. While the multi-institutional, multi-regional and multi-disciplinary composition of the sample is a relative strength with respect to transferability within the Colombian higher-education system, the geographical concentration in three regions and the predominance of Pereira and Bogotá in the obtained sample limit generalisation to other Latin American settings.

Although the questionnaire offered three gender-identity response options (male, female, other), no participant selected the other category. The conclusions on gender differences therefore apply to participants who self-identified as female or male and cannot be extended to gender-diverse lecturers. Future research should specifically include strategies to recruit gender-diverse academics and report gender categories disaggregated to a level that supports such inclusion.

Reliance on self-report data may have introduced risks of social-desirability and self-report bias. Although the procedure included specific safeguards to mitigate these risks, residual social-desirability bias inherent to self-report cannot be fully eliminated. To mitigate common method bias in future investigations, researchers could employ a combination of self-reports and physiological measures of work stress, such as hair cortisol concentrations.

The custom questionnaire on working conditions did not separate the constructs of perceived monotony, predictable routine and occupational rhythm. Given the conceptual relevance of this distinction for the interpretation of our most counter-intuitive finding, we identify it as a priority for instrument development in future studies on occupational stress in higher-education contexts.

Despite these limitations, the current study offers valuable evidence regarding evident and non-evident working conditions that may influence stress levels among college professors. Furthermore, this research provides critical information for the design of mental health promotion programs tailored to teachers. By considering the effects of stress in these programs, their effectiveness may be enhanced, potentially leading to reduced costs associated with stress-related disorders. The insights gained from this study underscore the importance of addressing workplace factors in promoting the mental health and meaningful occupational participation of academic professionals in higher education settings.

Conclusions

This study offers preliminary insights into the relationship between stress and working conditions among university teachers in Colombia in the post-COVID-19 context, read through combined occupational-science and occupational-health lenses. Our findings reveal patterns that may inform institutional planning and occupational-health policy in higher education. Notably, we observed significant gender differences in self-reported stress levels, with women reporting higher stress compared to men. Furthermore, our research uncovered a strong association between dissatisfaction with productivity levels and higher stress, suggesting a bidirectional relationship between stress and job satisfaction. Notably, and contrary to most prior teaching-population evidence, our model indicated that perceiving the workday as monotonous was associated with lower odds of being in the highest-stress category. This unexpected result is best interpreted, with appropriate caution, as a possible return-to-routine effect following the uncertainty of the pandemic, in which predictability and occupational rhythm — not monotony per se — may have operated as temporary resources.

These findings offer preliminary implications with potential relevance to university administrators and policymakers. Our findings invite institutions to consider gender-sensitive, primarily preventive measures to address the structural sources of the gender stress gap. Strategies to enhance perceived productivity and job satisfaction could usefully inform institutional planning, particularly when articulated as resources within the JD-R framework. Our results also suggest the importance of striking a delicate balance between stimulating work and predictable routines in academic environments. Looking ahead, future research should examine the differential roles of monotony, routine and occupational rhythm in the post-pandemic context, drawing on instruments that distinguish these constructs operationally; explore additional psychosocial factors that may influence stress among university lecturers; and adopt longitudinal designs to clarify the directionality of the associations reported here. Adapting and evaluating workplace-based mental-health promotion programmes (Carrillo-González et al., 2026) for university lecturers, within an institutional rather than individual frame, is a direction of particular practical value. By addressing these issues comprehensively, institutions can foster more supportive and productive academic environments, ultimately benefiting both educators and students.

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Data Availability

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

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